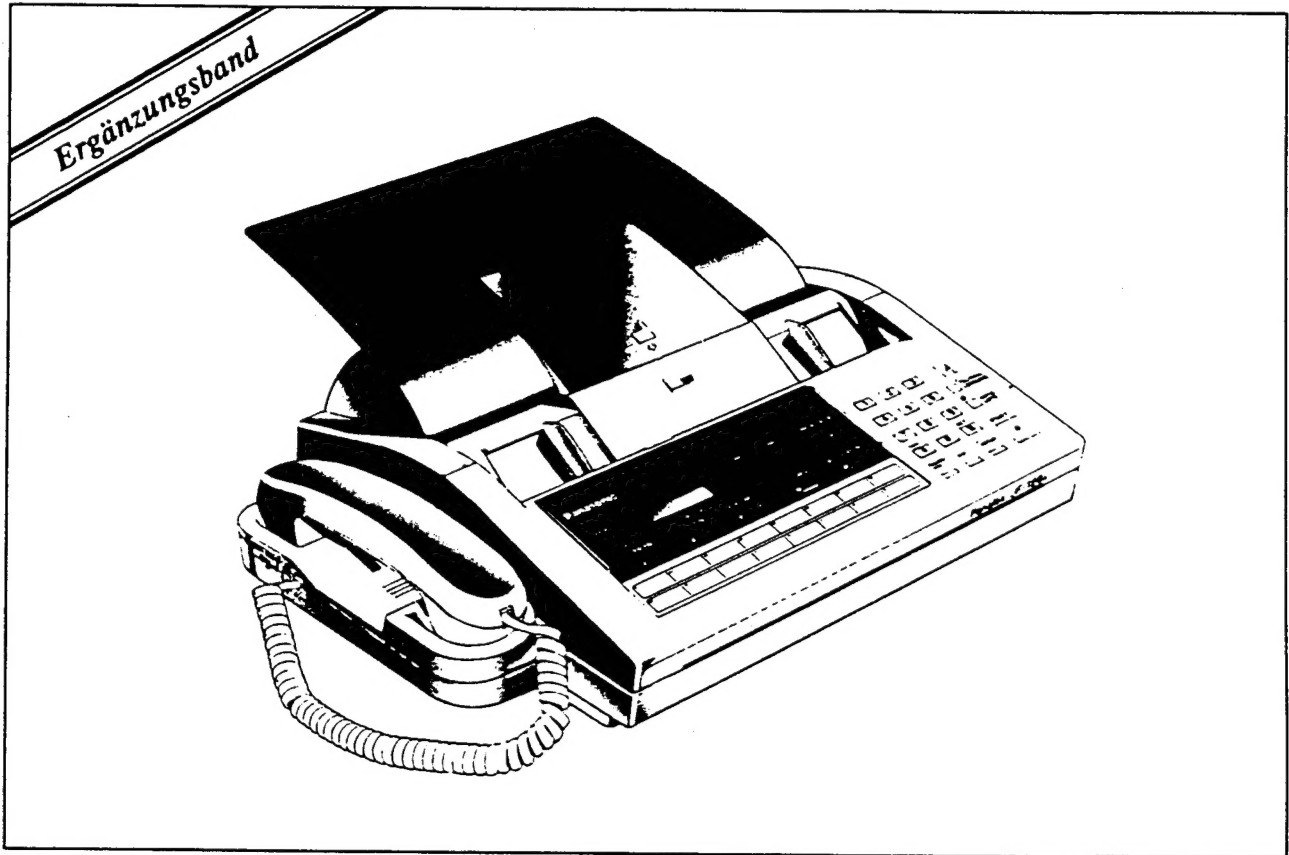


Service-Handbuch

Fernkopierer
UF-128A



Bitte benutzen Sie diesen Ergänzungsband nur in Verbindung mit dem Service-Handbuch für UF-128M, Best Nr. MGCS920900C0

Kapitel 5

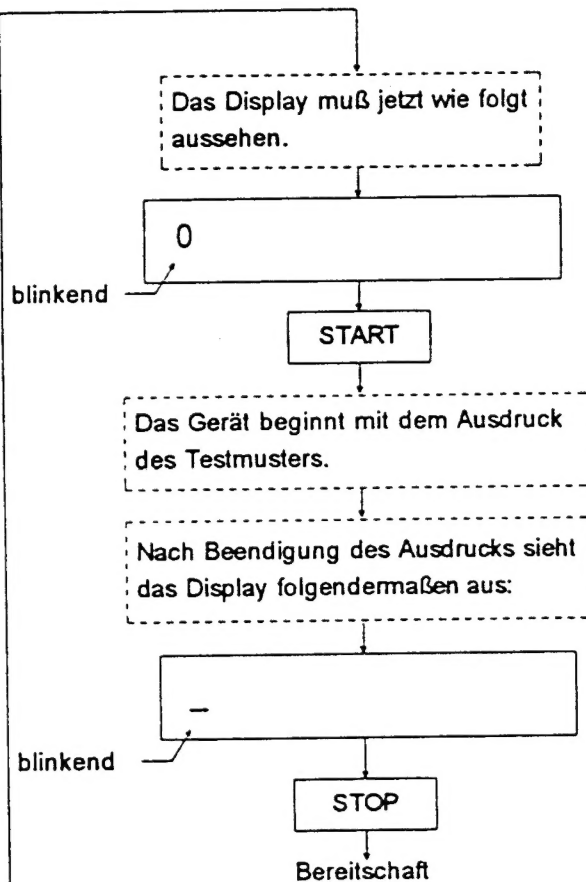
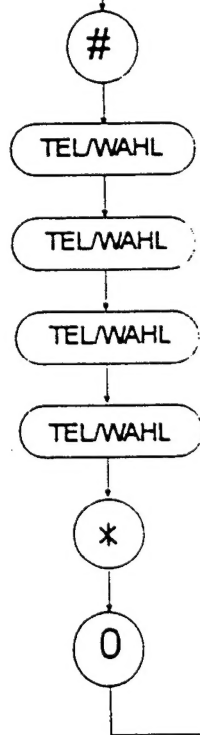
SERVICE-MODUS

5.1	Service-Modus 0	(Ausdruck des Testmusters)	5-2
5.2	Service-Modus 1	(Eingabe der Funktionsparameter)	5-3
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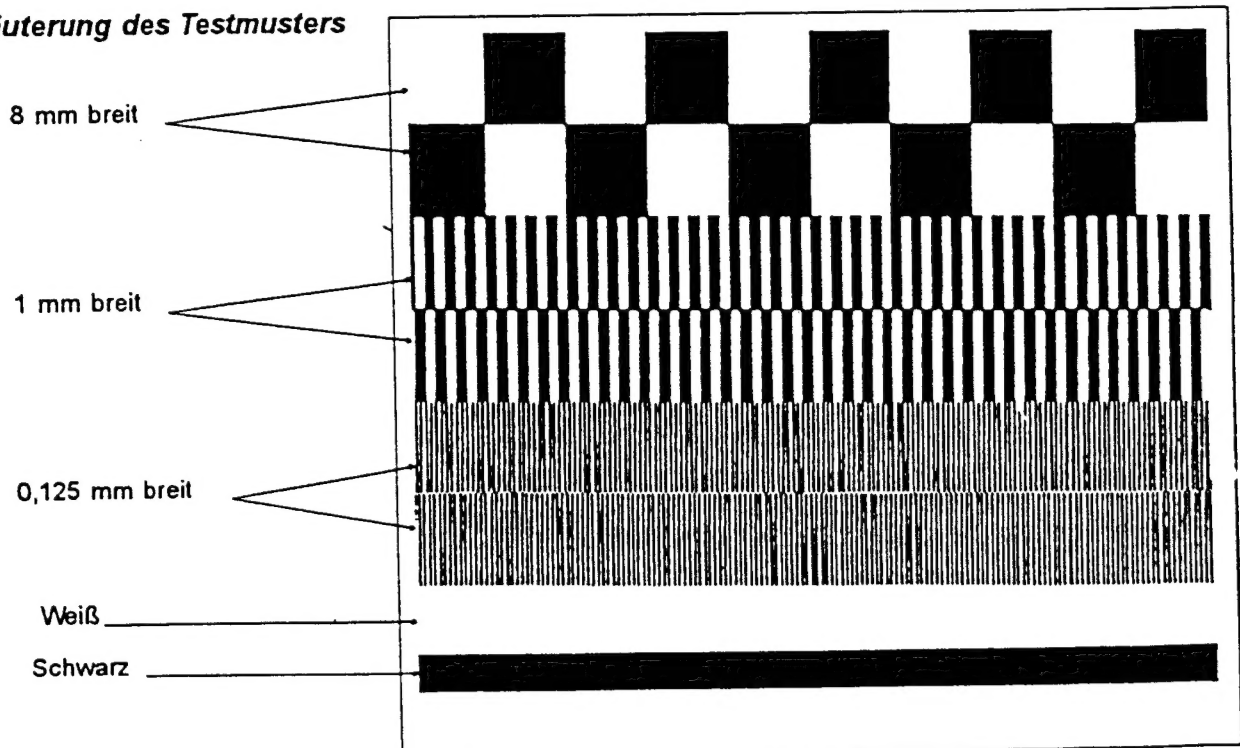
5.1 Service-Modus 0

Bezeichnung	— Ausdruck des Testmusters
Zweck	— Prüfung, ob Thermokopf und Papiertransport ordnungsgemäß arbeiten.
Durchführung	— Führen Sie die folgenden Schritte aus.

Das Gerät muß sich im Bereitschaftszustand befinden.
(Datum und Uhrzeit werden angezeigt)

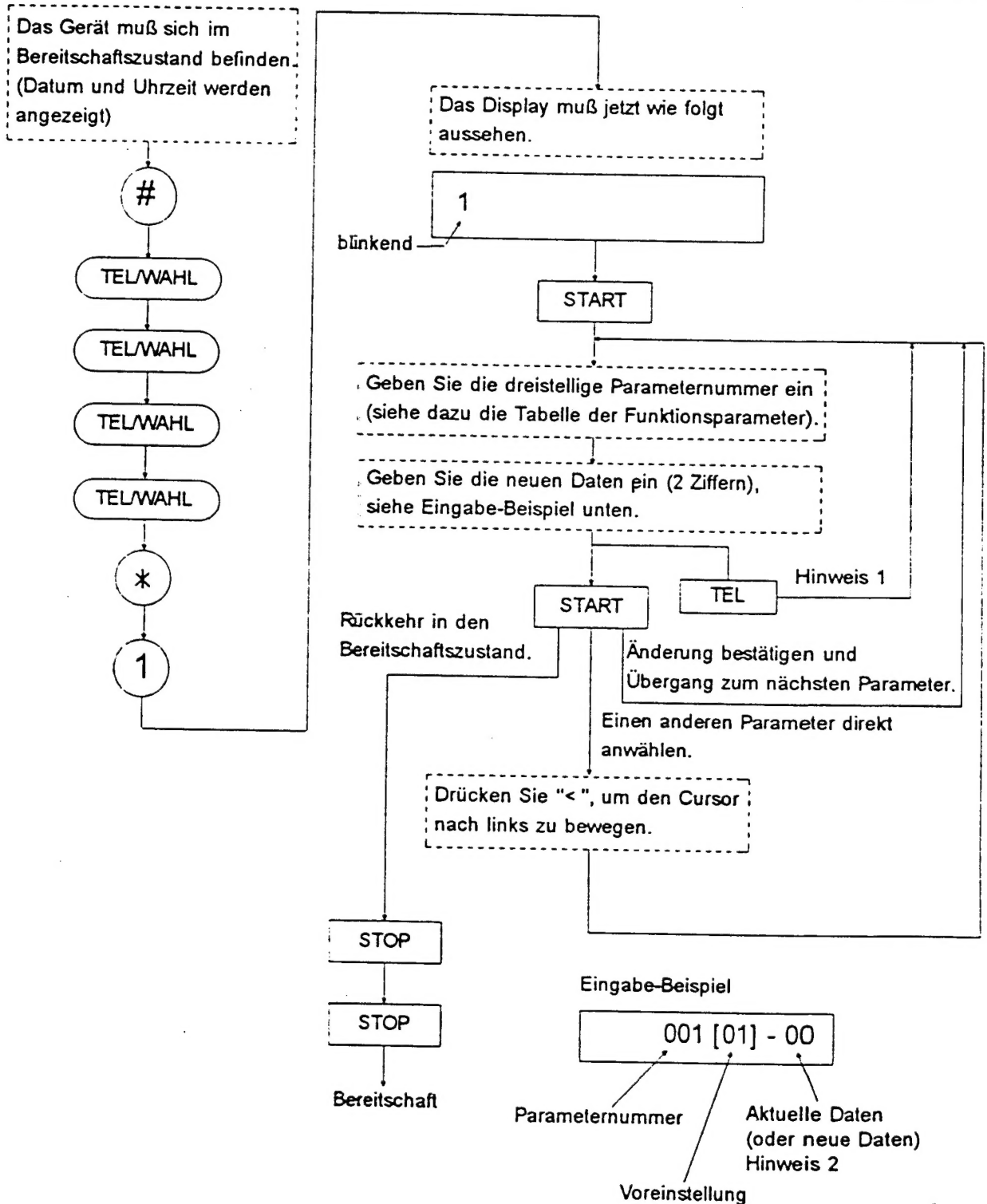


Erläuterung des Testmusters



5.2 Service-Modus 1

Bezeichnung	— Eingabe der Funktionsparameter
Zweck	— Ändern der Grundeinstellung von Funktionsparametern wie z.B. Leitungsanpassung, Sendepiegel usw..
Durchführung	— Führen Sie die folgenden Schritte aus.



Hinweis 1: Zurückspringen zur vorherigen Parameternummer, eine eventuelle Parameteränderung wird hierdurch nicht bestätigt.

Hinweis 2: Wird in der Spalte der aktuellen Daten "99" angezeigt, wurden im Service-Modus 2 oder durch RAM-Datenverlust ungültige Werte vorgegeben.

Tabelle der Funktionsparameter (1/7)

Nr.	Funktion	Vorein- stellung	Zulässige Werte	Daten- beschreibung
000	Auflösung im Sendebetrieb (Grundeinstellung für die Taste AUFLÖSUNG)	01	01	STANDARD (3,85 mm/Zeile)
			02	FEIN (7,7 mm/Zeile)
			03	HOCH (15,4 mm/Zeile)
001	Dokumentenkontrast (Grundeinstellung für die Taste KONTRAST)	01	00	HELL
			01	NORMAL
002	Bestätigungsstempel (Grundeinstellung)	01	00	Aus
			01	Ein
003	Nicht benutzt			
004	Protokoll (Grundeinstellung)	00	00	AMS
			01	G3
005	Druckposition der Kopfzeile	02	00	Kein Ausdruck
			01	Außerhalb des Bildbereiches
			02	Innerhalb des Bildbereiches
006	Druckposition der Gesamtanzahl von Dokumenten	02	00	Kein Ausdruck
			01	Unterhalb des Bildbereiches
			02	Innerhalb des Bildbereiches
007	Grenzwert für Dokumentenlänge (Stauerkennung)	00	00	ca. 1 m
			01	Keine Begrenzung
			02	Aus
008	Zusätzlicher Ausdruck der empfangenen Absenderkennung (TSI-Druck)	00	00	Kein Ausdruck
			01	Ausdruck nur bei G3-standard
			02	Ausdruck in jedem Fall
009	Schneideeinrichtung	01	00	Ein, mit Vorabschnitt/ Teststreifen
			01	Ein
			02	Aus
010	Nicht benutzt			
011	Auflösung im Kopiermodus (Grundeinstellung der Taste KOPIE)	02	01	3,85 mm/Zeile
			02	7,7 mm/Zeile
			03	15,4 mm/Zeile
012	Zulässige Anzahl von Fehlerzeilen	01	00	32 Zeilen
			01	64 Zeilen
			02	96 Zeilen
			03	128 Zeilen
			04	160 Zeilen
			05	192 Zeilen
			06	224 Zeilen
			07	255 Zeilen
013	Zulässiger Prozentsatz an Fehlerzeilen	01	00	5%
			01	10%
			02	14%
			03	20%

Tabelle der Funktionsparameter (2/7)

Nr.	Funktion	Vorein- stellung	Zulässige Werte	Daten- beschreibung
014	Zulässige Anzahl aufeinander folgender Fehlerzeilen	01	00	3 STANDARD
				6 FEIN
				12 HOCH
			01	5 STANDARD
				10 FEIN
				20 HOCH
			02	8 STANDARD
				16 FEIN
				32 HOCH
			03	10 STANDARD
				20 FEIN
				40 HOCH
015	Grundlage Fehlererkennung	01	00	Gesamtanzahl Fehlerzeilen
			01	Prozentsatz Fehlerzeilen und Anzahl aufeinanderfolgende Fehlerzeilen
016	Ausdruck von Einzelsendebericht (ESB) und Rückrufmeldung (RRM)	05	00	Kein ESB, keine RRM
			01	ESB, keine RRM
			02	Kein ESB, RRM
			03	ESB, RRM
			04	ESB bei Fehlern, kein RRM
			05	ESB bei Fehlern, RRM
017	Automatischer Journalausdruck	01	00	Nein
			01	Ja
018 und 019	Nicht benutzt			
020	Sendepiegel (Ausgangspegel)	12*	00	0 dB (Ausgangspegel : 0 dBm)
			01	1 dB (: - 1 dBm)
			02	2 dB (: - 2 dBm)
			03	3 dB (: - 3 dBm)
			04	4 dB (: - 4 dBm)
			05	5 dB (: - 5 dBm)
			06	6 dB (: - 6 dBm)
			07	7 dB (: - 7 dBm)
			08	8 dB (: - 8 dBm)
			09	9 dB (: - 9 dBm)
			10	10 dB (: -10 dBm)
			11	11 dB (: -11 dBm)
			12	12 dB (: -12 dBm)
			13	13 dB (: -13 dBm)
			14	14 dB (: -14 dBm)
			15	15 dB (: -15 dBm)

* Die Voreinstellung ist abhängig vom Land, in dem das Gerät eingesetzt wird.

Tabelle der Funktionsparameter (3/7)

Nr.	Funktion	Voreinstellung	Zulässige Werte	Datenbeschreibung
021	Empfangsdämpfung (Eingangsempfindlichkeit)	00	00	0 dB (Empfindlichkeit : -43 dBm)
			01	5 dB (Empfindlichkeit : -38 dBm)
			02	10 dB (Empfindlichkeit : -33 dBm)
			03	15 dB (Empfindlichkeit : -28 dBm)
022	Anfangs-Übertragungs- geschwindigkeit (G3)	03	00	2400 bps
			01	4800 bps
			02	7200 bps
			03	9600 bps
023	Anfangs- Empfangsgeschwindigkeit (G3)	03	00	2400 bps
			01	4800 bps
			02	7200 bps
			03	9600 bps
024	TCF-Prüfung (Ignorier-/Prüfzeit)	03	00	100 ms/1 s
			01	100 ms/1,2 s
			02	200 ms/1 s
			03	200 ms/1,2 s
025	Empfangsentzerrer	02	00	0 km
			01	6,0 km
			02	7,2 km
			03	13,2 km
026	Sendeentzerrer	00	00	0 km
			01	7,2 km
027 und 028	Nicht benutzt			
029	Echoschutzsignal für die Kommunikation mit 9600/7200 bps	00	00	Aus
			01	Mit Phase C (nur Non-Standard)
			02	Mit Phase C und B (nur Non-Standard)
			03	Mit Phase C (unabhängig vom Gegengerät, entspricht nicht CCITT)
			04	Mit Phase C und B (unabhängig vom Gegengerät, entspricht nicht CCITT)
030	CED-Frequenz	00	00	2100 Hz
			01	1100 Hz (Entspricht nicht CCITT)
031	Nicht benutzt			
032	Panasonic-Funktionen (Non-Standard Merkmale)	00	00	Freigegeben(G3-Standard oder Non-Standard)
			01	Gesperrt (nur die CCITT-Standardfunktionen)
033	CSI-Übertragung	01	00	Nicht übertragen
			01	Übertragen

Tabelle der Funktionsparameter (4/7)

Nr.	Funktion	Voreinstellung	Zulässige Werte	Datenbeschreibung
034	TSI- und/oder CIG-Übertragung	03	00	TSI : Nicht übertragen CIG : Nicht übertragen
			01	TSI : Nicht übertragen CIG : Übertragen
			02	TSI : Übertragen CIG : Nicht übertragen
			03	TSI : Übertragen CIG : Übertragen
			04	Nach Empfang von CSI TSI : Nicht übertragen CIG: Übertragen
			05	Nach Empfang von CSI TSI : Übertragen CIG: Nicht übertragen
			06	Nach Empfang von CSI TSI : Übertragen CIG: Übertragen
035	Prüfung Abrufpaßwort	00	00	Prüfung
			01	Keine Prüfung
036 bis 043	Nicht benutzt			
044	Schleifenstrom-Erkennung	00	00	Ein
			01	Aus
045	Ferndiagnose	01	00	Nein
			01	Ja
046 und 047	Nicht benutzt			
048	Kommunikationsbeginn (Senden und Abruf)	00	00	Nach Erkennung des ersten NSF/ CSI/DIS
			01	Nach Erkennung des zweiten NSF/ CSI/DIS
049	Wahl zwischen direkter Amtsleitung/TK-anlage (siehe Hinweis 1)	00	00	Amtsleitung (PSTN)
			01	TK-Anlage (PBX)
050	Wahlverfahren	00	00	Impulswahl (10 Pulse/s)
			01	Impulswahl (20 Pulse/s)
			02	Frequenzwahl
051 und 052	Nicht benutzt			
053	Besetztton- Erkennung (siehe Hinweis 1)	01	00	Aus
			01	Ein
054	Wählton- Erkennung (siehe Hinweis 1)	01	00	Aus
			01	Ein
055	Wahlwiederholungsintervall: X (siehe Hinweis 2)	03	00	30 s
			01	55 s
			02	120 s
			03	180 s
056	Erkennung TK-Anlagenzeichen (nicht für Deutschland)	00	00	Aus
			01	Ein

Tabelle der Funktionsparameter (5/7)

Nr.	Funktion	Voreinstellung	Zulässige Werte	Datenbeschreibung
057	Anzahl der Wahlwiederholungen: N (siehe Hinweis 2)	02*	00	0
			01	1
			02	2
		
			98	98
058	Monitor-Lautsprecher (nur zu Wartungszwecken)	00	00	Aus
			01	Ein
059	Nicht benutzt			
060	Funktion der Pausen-Taste	00*	00	Pause
			01	Pause mit Wählton-Erkennung
061	Amtsholung an TK-Anlagen (nicht für Deutschland)	00	00	Amtskennziffer (AKZ)
			01	Erde
			02	Flash
062	Art der Telefonleitung (Hauptanschluß bzw. Amtsholung an TK-Anlagen)	00	00	Amtsleitung
			11	Nebestelle E (Erde)
			12	Nebestelle F (Flash)

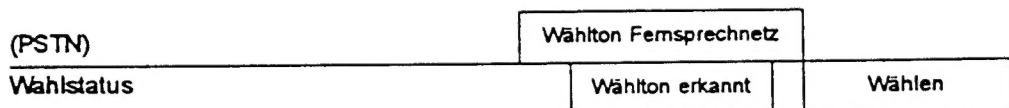
* Die Voreinstellung ist abhängig vom Land, in dem das Gerät eingesetzt wird.

Hinweis 1:

Betrieb mit Wähltonerkennung

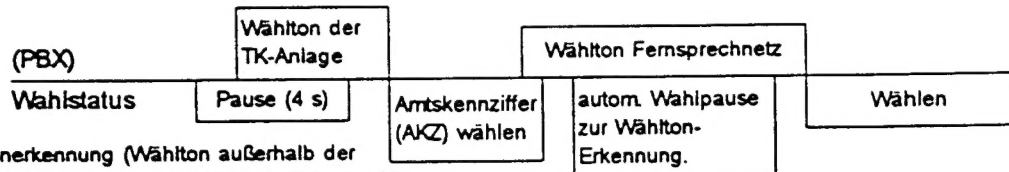
54 = 01

49 = 00 (PSTN)



54 = 01

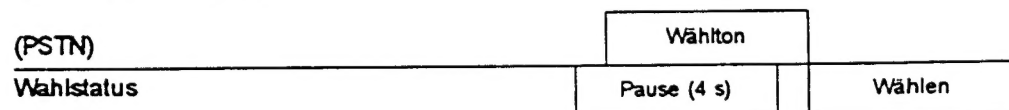
49 = 01 (PBX)



Betrieb ohne Wähltonerkennung (Wählton außerhalb der Toleranz 2, oder TK-Anlage schaltet den Wählton nicht durch)

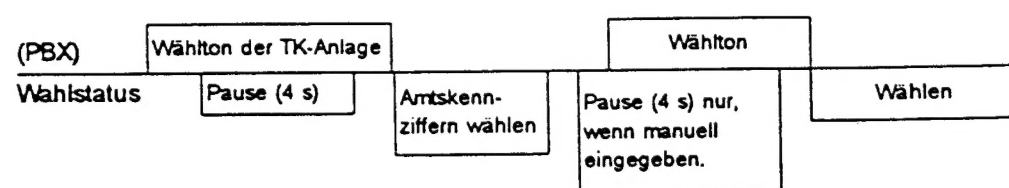
54 = 00

49 = 00 (PSTN)



54 = 00

49 = 01 (PBX)



Hinweis 2:

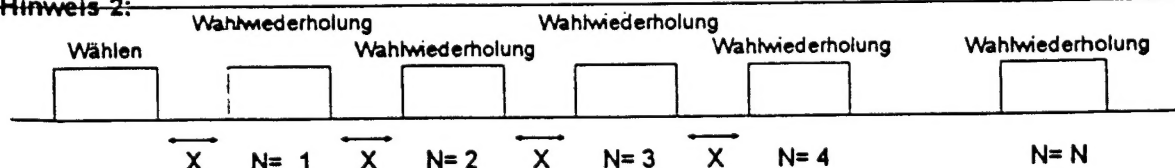


Tabelle der Funktionsparameter (6/7)

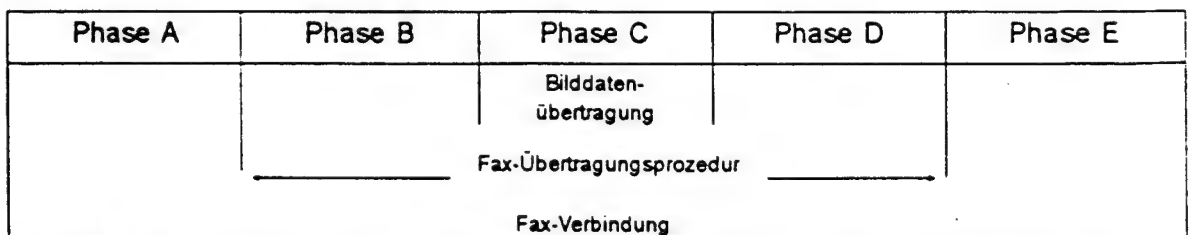
Nr.	Funktion	Voreinstellung	Zulässige Werte	Datenbeschreibung
063	Wählform	00	00	Allgemeine Form
			01	Schwedische Form
			02	Norwegische Form
064 bis 074	Nicht benutzt			
075	Automatischer Rundsendbericht	02	00	Kein Ausdruck
			01	Ausdruck im Format A4
			02	Ausdruck mit unbeschränkter Länge
076 bis 077	Nicht benutzt			
078	Wahlpause zwischen aufeinanderfolgenden Anwahlen	02*	00	1s
			01	5s
			02	10s
			03	MWS + MWS Typ II
079	Nicht benutzt			
080	Kurzprotokoll (Non-Standard)	00	00	Aus
			01	Ein
081	Express-Modus (MWS)	03	00	Aus
			01	Nicht benutzt
			02	Nicht benutzt
			03	MWS + MWS Typ II
082 bis 086	Nicht benutzt			
087	Zeit zwischen CED und NSF/CSI/DIS	00	00	75 ms
			01	500 ms (entspricht nicht CCITT)
			02	1 s (entspricht nicht CCITT)
088	Kodierverfahren	01	00	MH
			01	MH + MR
089	Bestätigungsstempel bei Speicherübertragung	00	00	Aus
			01	Ein
090	CNG in Phase A	02	00	Nicht gesendet (entspricht nicht CCITT)
			01	Gesendet (bei Verwendung von Ziel- und Kurzwahl)
			02	Immer gesendet
091	Klingelzähler (FAX-Modus)	01	01	1
			02	2
			03	3
		
			08	8
092	Identifizierungsspalte im Journalausdruck	00	00	Kennung hat Vorrang
			01	Stationsname (ZWKW) hat Vorrang
093	CCITT ECM (Fehlerkorrektur)	01	00	Aus
			01	Ein

* Die Voreinstellung ist abhängig vom Land, in dem das Gerät eingesetzt wird.

Tabelle der Funktionsparameter (7/7)

Nr.	Funktion	Voreinstellung	Zulässige Werte	Datenbeschreibung
094 bis 095	Nicht benutzt			
096	Handapparat (Hörer)	02	00	Nicht montiert
			01	Montiert (Status des Gabelschalters wird nicht geprüft)
			02	Montiert (Status des Gabelschalters wird geprüft)
097	Nicht benutzt			
098	Ersatzempfang	01	00	Aus
			01	Ein
099 bis 100	Nicht benutzt			
101	Klingelzähler (AUTO-Modus, muß dem Zähler # 091 hinzuaddiert werden)	00	00	Normal + 0 Rufzeichen
			01	Normal + 1 Rufzeichen
			02	Normal + 2 Rufzeichen
			03	Normal + 3 Rufzeichen
			..	
			08	Normal + 8 Rufzeichen
102 bis 115	Nicht benutzt			
116	Papiervorschub beim Einlegen des Faxpapiers	01	00	0 mm
			01	150 mm
			02	300 mm
			03	450 mm
117	Dauer der Ansage-Sequenz, während das Gerät auf CNG-Signale prüft. (Fax-Param. 39, Dauer/ Bedienerruf)	02	00	10 sec.
			01	20 sec.
		
			09	100sec.
118	Verhalten nach Ablauf der Ansage-Sequenz (siehe Param. 117).	00	00	Fax-Empfangsbetrieb
			01	Leitung auslösen
119	Nicht benutzt			

Hinweis



Phase A: Verbindungsaufbau

Phase B: Einstellungsphase

Phase C: Bilddatenübertragung

Phase D: Abschlußphase

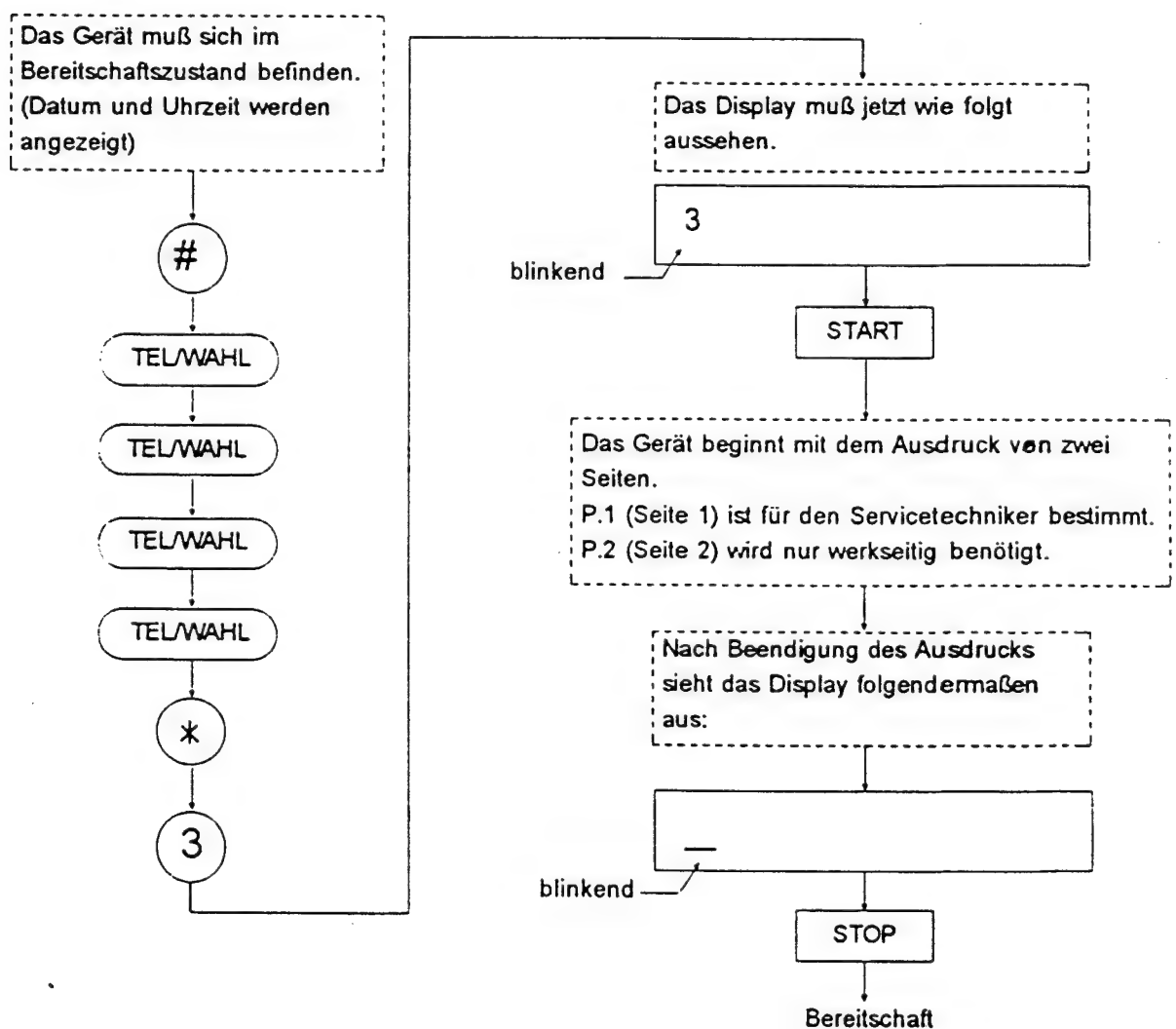
Phase E: Trennen der Verbindung

5.3 Service-Modus 2

Bezeichnung	— Eingabe der RAM-Daten
Zweck	— Der Service-Modus 2 ist ausschließlich für werkseitige Änderungen bestimmt.
ACHTUNG!	— Willkürliche Änderungen im Service-Modus 2 führen zum Systemabsturz und somit u.U. zu erheblichem Datenverlust.

5.4 Service-Modus 3

Bezeichnung	— Ausdruck der Funktions-Parameterliste
Zweck	— Zur Prüfung von Parametereinstellungen im Service-Modus 1 und um die Sende- bzw. Empfangszähler auszulesen.
Durchführung	— Führen Sie die folgenden Schritte aus.



Hinweis: Der Ausdruck der Parameterlisten wird auf den beiden folgenden Seiten erläutert.

(Seite 1: Funktionsparameter)

```

(1)
*****-RAM DATA-***DATUM 15-12-1993***UHRZEIT 09:39***S.1
(2) (3)
(4) (5) (6)
#000=01 #030=00 #060=-- #090=01[02]
#001=01 #031=-- #061=-- #091=01
#002=01 #032=00 #062=00 #092=00

#027=-- #057=02 #087=00 #117=02
#028=-- #058=00 #088=01 #118=00
#029=00 #059=-- #089=-- #119=--

ZÄHLER GESENDETE SEITEN : 000000 (7)
ZÄHLER EMPFANGENE SEITEN : 000000 (8)

S1 ROM=C128ZAG10
(9) (10)
-UF-128A New York
*****-01234567890123456789-*****
(11)

```

Erläuterungen zum Ausdruck der RAM-Daten

- 1) Datum des Ausdrucks : Tag-Monat-Jahr
- 2) Uhrzeit des Ausdrucks : Stunde:Minute
- 3) Seitennummer
 - P.1 Liste aller Funktionsparameter (siehe Service-Modus 1)
 - P.2 RAM-Daten (nur zur werkseitigen Verwendung)
- 4) Parameternummer
- 5) Aktueller Wert
- 6) Voreinstellung
- 7) Zähler Sendeseiten
- 8) Zähler Empfangsseiten
- 9) EPROM-Version
- 10) LOGO
- 11) Kennung

Druckformat der Parameterliste (Beispiel)
(Seite 2: RAM-Datenliste)

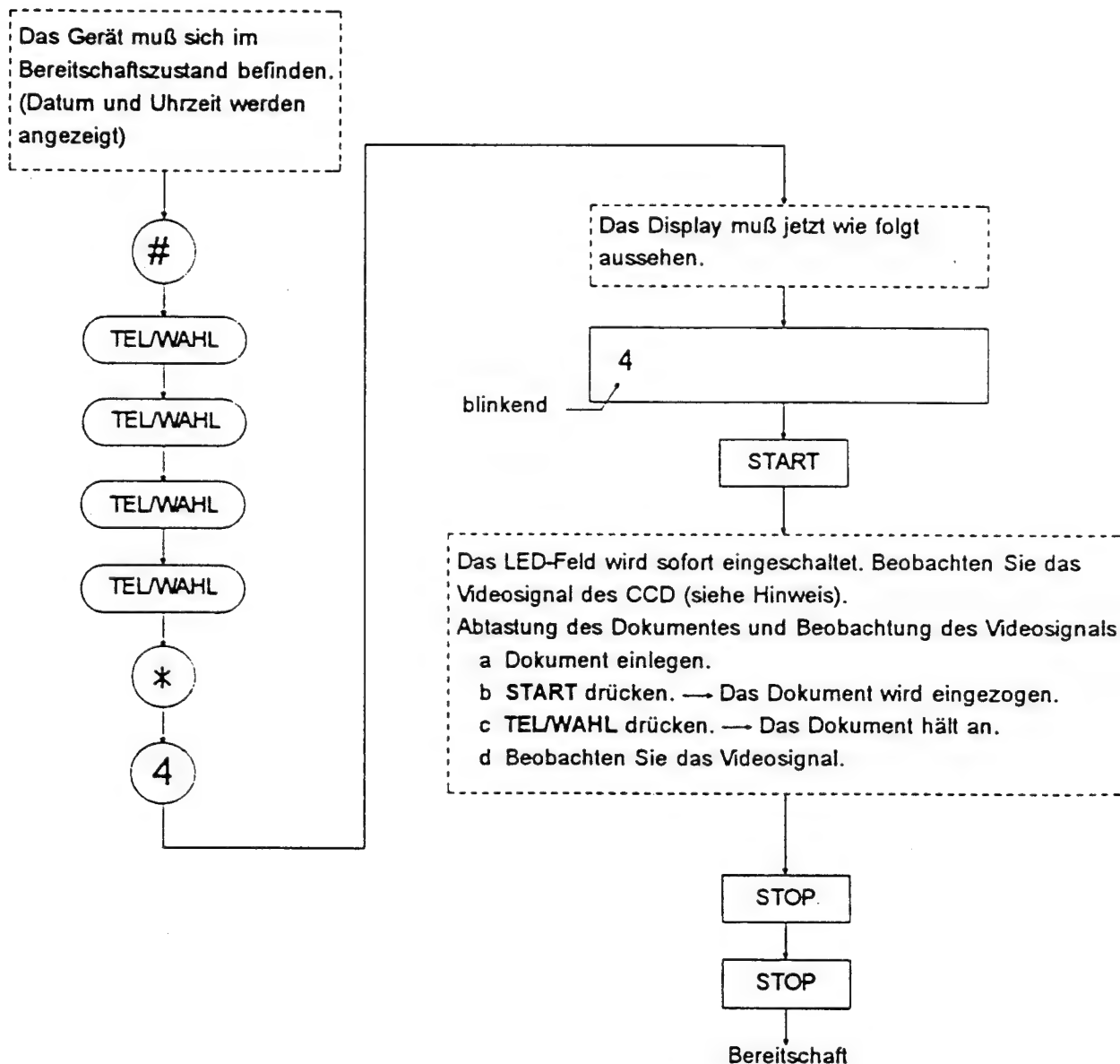
*****-RAM DATA-***								
DATUM 15-12-1993***UHRZEIT 09:39***P.2								
000	02	28	41	EF	38	38	4F	C0[7F]
	06	42	C3	15	0B	06	0A	40
010	02	02	6F	08	08	41	09	C2
	01	80	20	40	25	00	05	00
0F0	63	21	15	1E	80	AD	15	BC
	1E	46	05	04	14	40	64	00
S1 ROM=C128ZAG10								
-UF-128A New York								
*****-01234567890123456789-***								

Erläuterungen zum Ausdruck der RAM-Daten

- 1) Datum des Ausdrucks : Tag-Monat-Jahr
- 2) Uhrzeit des Ausdrucks : Stunde:Minute
- 3) Seitennummer
 - P.1 Liste aller Funktionsparameter (siehe Service-Modus 1)
 - P.2 RAM-Daten (nur zur werkseitigen Verwendung)
- 4) RAM-Adresse (Adresse der ersten Daten der gleichen Spalte)
- 5) Aktueller Wert
- 6) Voreinstellung
- 7) EPROM-Version
- 8) LOGO
- 9) Kennung

5.5 Service-Modus 4

Bezeichnung	— CCD-Test (CCD = Ladungsgekoppelter Bildsensor)
Zweck	— Zur Prüfung, ob der CCD auf der Videoplatine ordnungsgemäß arbeitet.
Durchführung	— Führen Sie die folgenden Schritte aus.



Hinweis: Schließen Sie das Oszilloskop über einen Tastkopf an die Testpunkte auf der SC-Platine an.

- Videosignal — TL3 (SC-Platine)
- Masse — TG (SC-Platine)
- Triggersignal — TL1 (SC-Platine)

5.6 Service-Modus 5

Bezeichnung	— Erzeugung von Faxsignalen
Zweck	— Zur Prüfung, ob die Modemschaltung und die LCU-Platine ordnungsgemäß arbeiten.
Durchführung	— Führen Sie die folgenden Schritte aus.

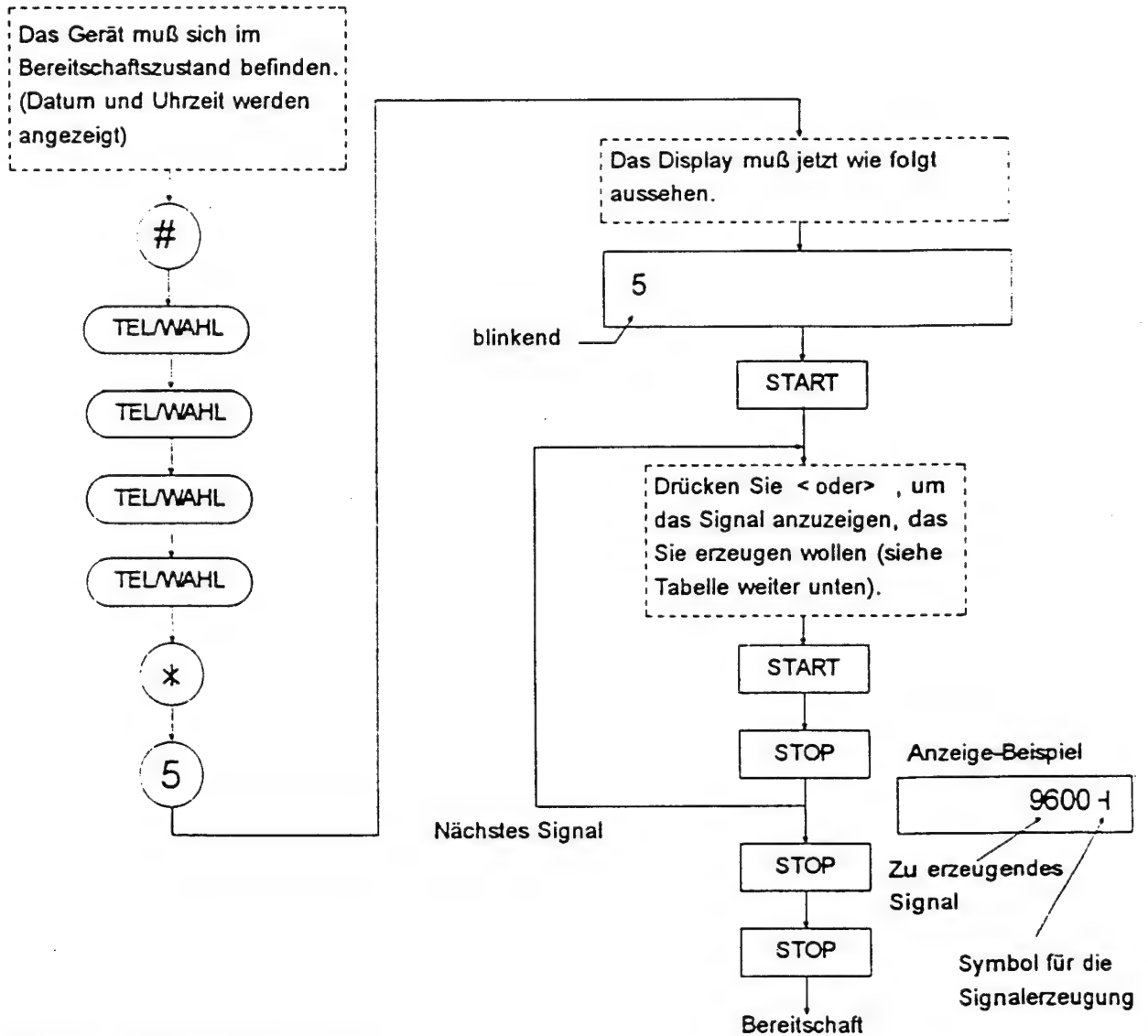
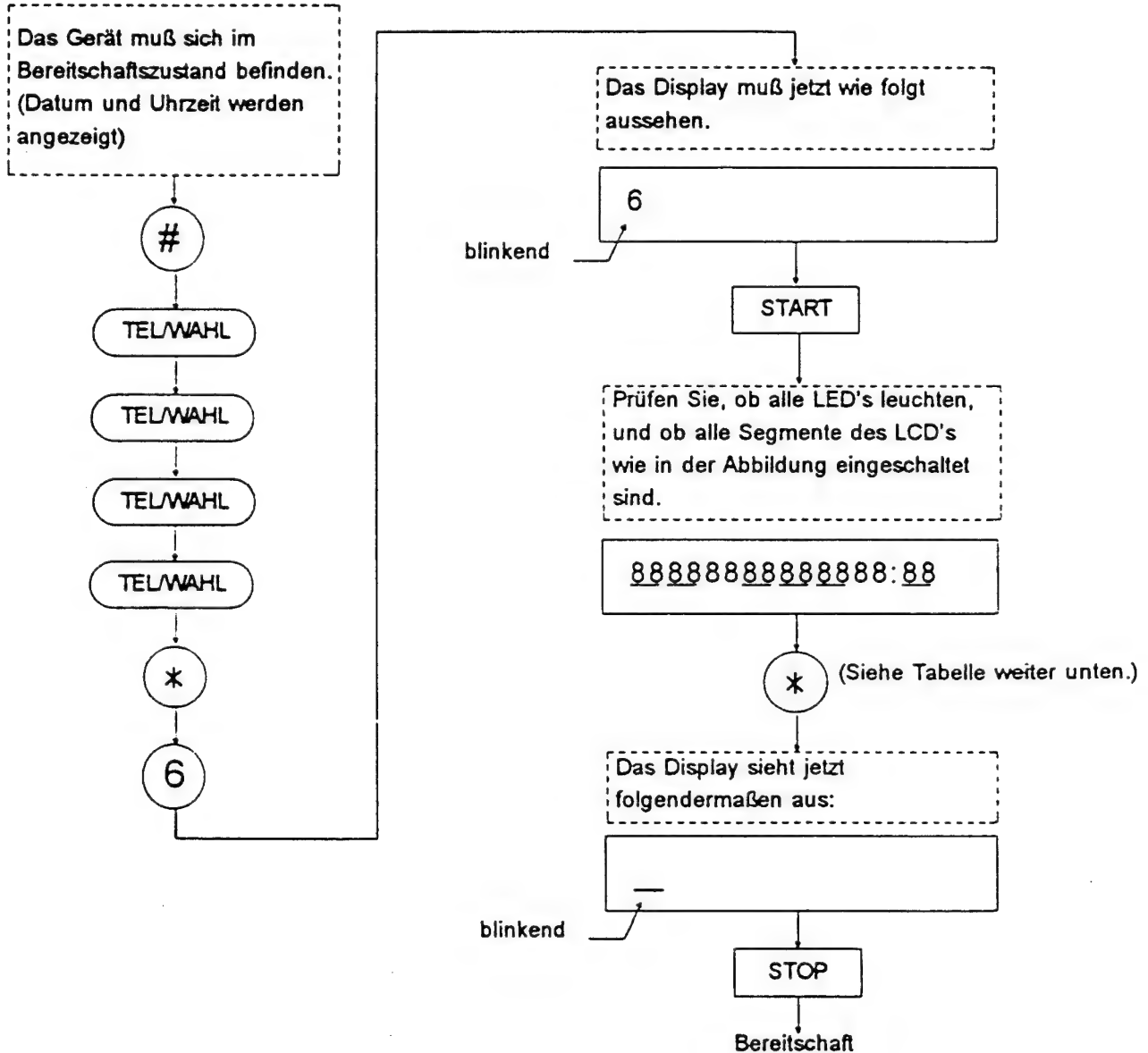


Tabelle zur Signalerzeugung

Anzeige	Ausgangssignal	Anzeige	Ausgangssignal
9600	V.29 9600 bps Daten (Mark: 1)	1100	1100 Hz Tonsignal
7200	V.29 7200 bps Daten (Mark: 1)	1650	1650 Hz Tonsignal
4800	V.27ter 4800 bps Daten (Mark: 1)	1850	1850 Hz Tonsignal
2400	V.29ter 2400 bps Daten (Mark: 1)	2100	2100 Hz Tonsignal
300	300 bps-Flag	NETZ	Wählton/ TK-Anlage (Relais RL1/RL3 der LCU Ein)
462	462 Hz Tonsignal		

5.7 Service-Modus 6

Bezeichnung	— RAM-Initialisierung und Displaytest
Zweck	— Zur Initialisierung der gespeicherten Daten im RAM. — Prüfung, ob alle Displaysegmente ordnungsgemäß funktionieren.
Durchführung	— Führen Sie die folgenden Schritte aus.



Taste	Initialisierte Daten
(*)	Die Parameter werden auf die Voreinstellungen des Service-Modus 1 gesetzt.
(1) (0)	Kennung, LOGO, Abrufpaßwort
(1) (2)	Inhalt des Journals.
(1) (3)	Zielwahl- und Kurzwahlnummern.
(9) (9)	Alle oben aufgeführten Daten (Auslieferungszustand).

Hinweis:— Vor jeder Installation, sowie nach dem Austausch der Software-Version, ist unbedingt eine Initialisierung mit "99" auszuführen.

5.8 Service-Modus 7

Bezeichnung	— Erzeugung von DTMF-Signalen
Zweck	— Zur Prüfung, ob die Signale für die Frequenzwahl richtig erzeugt werden.
Durchführung	— Führen Sie die folgenden Schritte aus.

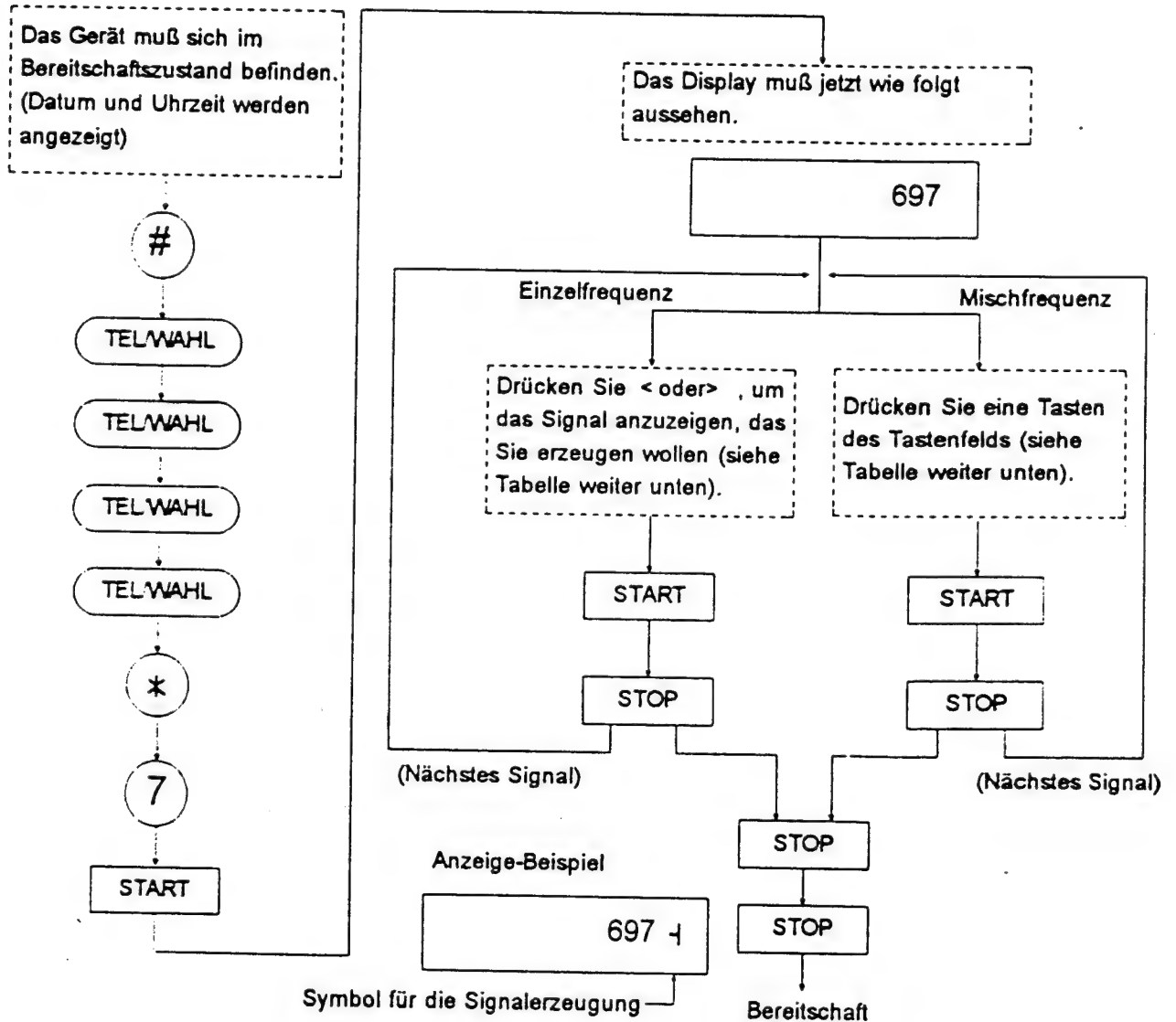


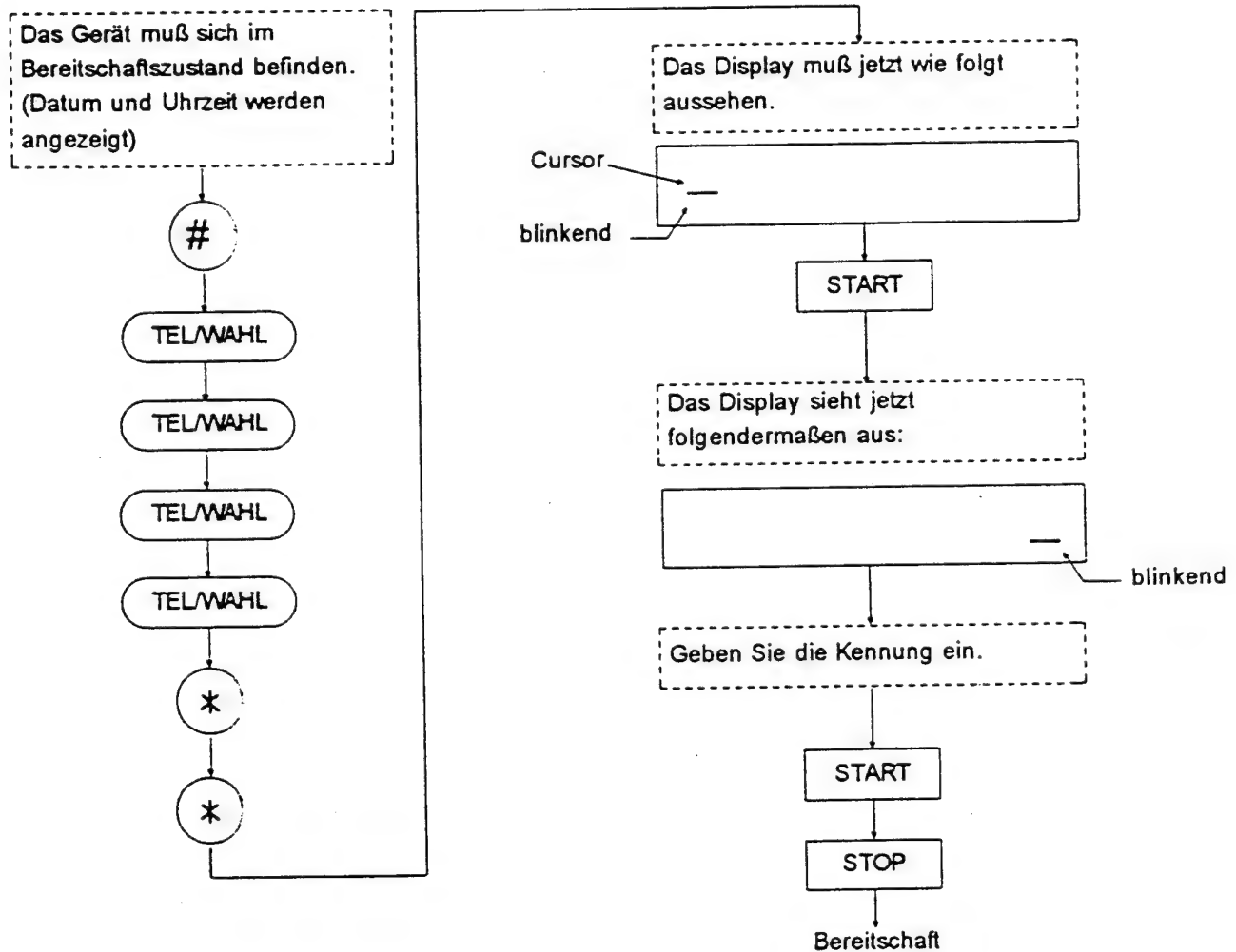
Tabelle zur Signalerzeugung

Einzel Frequenz				Mischfrequenz					
Anzeige	Ausgangs-signal	Anzeige	Ausgangs-signal	Taste	Anzeige	Ausgangssignal	Taste	Anzeige	Ausgangssignal
697	697 Hz	1209	1209 Hz	1	[1] 697 1209	697 & 1209 Hz	7	[7] 852 1209	852 & 1209 Hz
770	770 Hz	1336	1336 Hz	2	[2] 697 1336	697 & 1336 Hz	8	[8] 852 1336	852 & 1336 Hz
852	852 Hz	1477	1477 Hz	3	[3] 697 1477	697 & 1477 Hz	9	[9] 852 1477	852 & 1477 Hz
941	941 Hz	NETZ	s. Hinweis	4	[4] 770 1209	770 & 1209 Hz	0	[0] 941 1336	941 & 1336 Hz
				5	[5] 770 1336	770 & 1336 Hz	#	[J] 941 1477	941 & 1477 Hz
				6	[6] 770 1477	770 & 1477 Hz	x	[L] 941 1209	941 & 1209 Hz

Hinweis — In Position NETZ werden die Relais RL1/RL3 der LCU eingeschaltet, im Monitor sollten der Wählton bzw. das Zeichen der TK-Anlage hörbar sein.

5.9 Service-Modus *

Bezeichnung	— Eingabe der Teilnehmerkennung
Zweck	— Die (korrekte) Eingabe der ID-Nr. ist erforderlich, um am Telefax-Dienst der DBP-Telekom teilnehmen zu können. Die Eingabe kann auch über das Kundenprogramm "2" erfolgen, siehe Bedienungsanleitung.
Durchführung	— Führen Sie die folgenden Schritte aus.



Eingabeformat:

Beispiel: + 49_40_85312221

Sondertasten: "+"-Zeichen = PAUSE-Taste

"_" Leerzeichen = TEL/WAHL-Taste

Hinweis:

Zum Ändern bzw. Löschen der ID-Nr. den Cursor mit den "<" ">"-Tasten an die gewünschte Position bringen, dort per Zifferntastatur überschreiben oder mit TEL/WAHL löschen.

Kapitel 6

SYSTEMBESCHREIBUNG

6.9	Schnittstelle zum Anrufbeantworter	6-2
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6.9 Schnittstelle zum Anrufbeantworter

Die Schnittstelle zum Anrufbeantworter ermöglicht den Anschluß eines kundeneigenen Anrufbeantworters. Dabei schaltet die Schnittstelle die Amtsleitung automatisch auf das Faxgerät oder den Anrufbeantworter.

Wenn kein Anrufbeantworter angeschlossen ist, wird automatisch zwischen Fax und Telefon umgeschaltet.

Zu diesem Zweck ermittelt der UF-128A, ob der eingehende Ruf von einem Faxgerät oder von einer Person stammt.

Wenn es sich um ein Faxgerät handelt, wird die normale Übertragungsprozedur eingeleitet. Handelt es sich dagegen um eine Person, erzeugt das Gerät über den eingebauten Summer den Bedieneruf.

6.9.1 Systemaufbau

Der Aufbau des Systems wird in Abbildung 6.9.1 dargestellt.

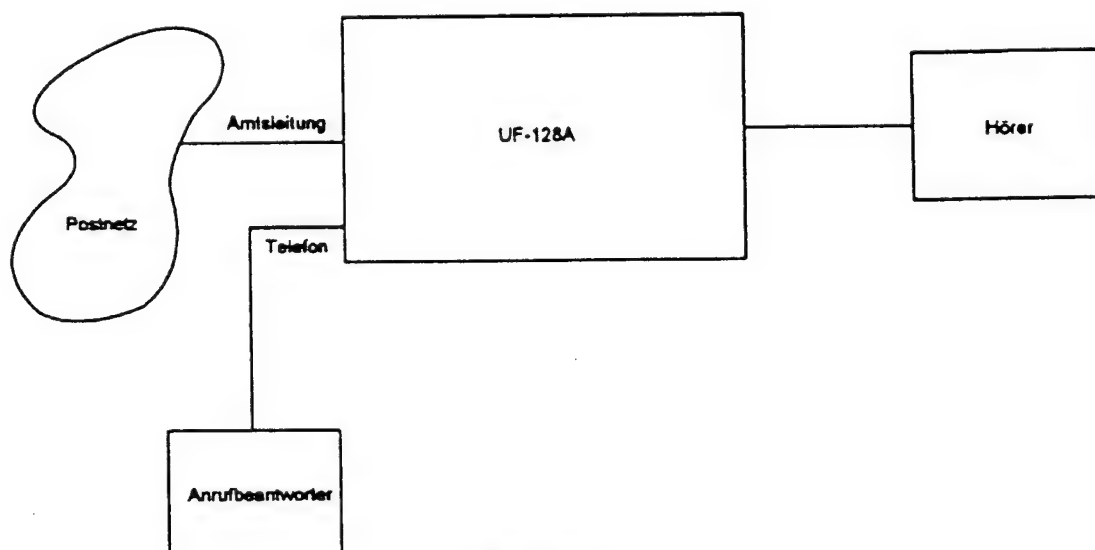


Abb. 6.9.1

6.9.2 Funktionsweise

Die Betriebsart, in der ein eingehender Ruf behandelt wird, kann gemeinsam durch die FAX/Telefon-Taste des Bedienfelds und den Faxparameter # 37 festgelegt werden.

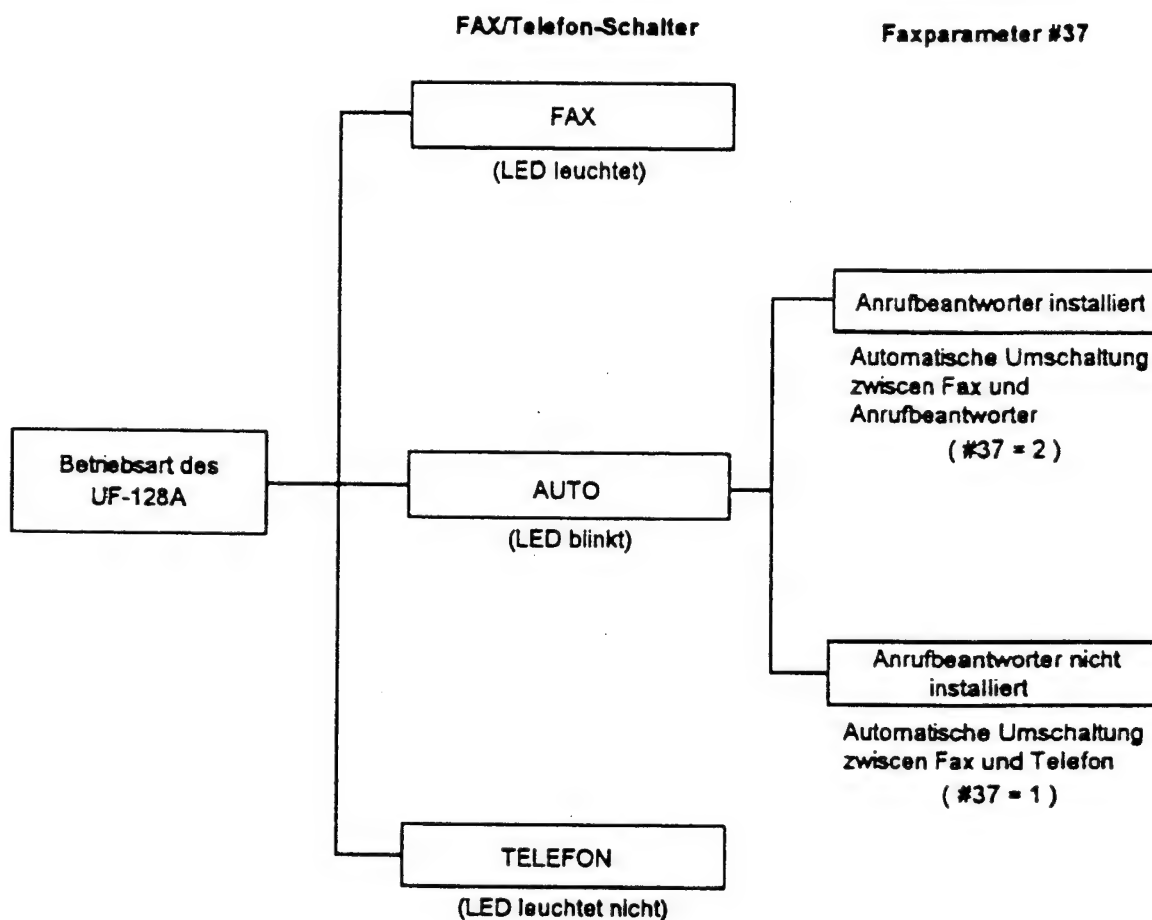


Abb. 6.9.2

6.9.2.1 Betriebsart Anrufbeantworter-Schnittstelle

Einstellung: Empfangsmodus = Auto und Faxparameter #37 = 2 (Anrufbeantworter angeschlossen)

In dieser Betriebsart antwortet zuerst der Anrufbeantworter, und anschließend überwacht der UF-128A die Signale auf der Amtsleitung. Wenn ein CNG-Signal erkannt wird, beginnt die Faxkommunikation.

a) Der eingehende Ruf stammt von einer Person

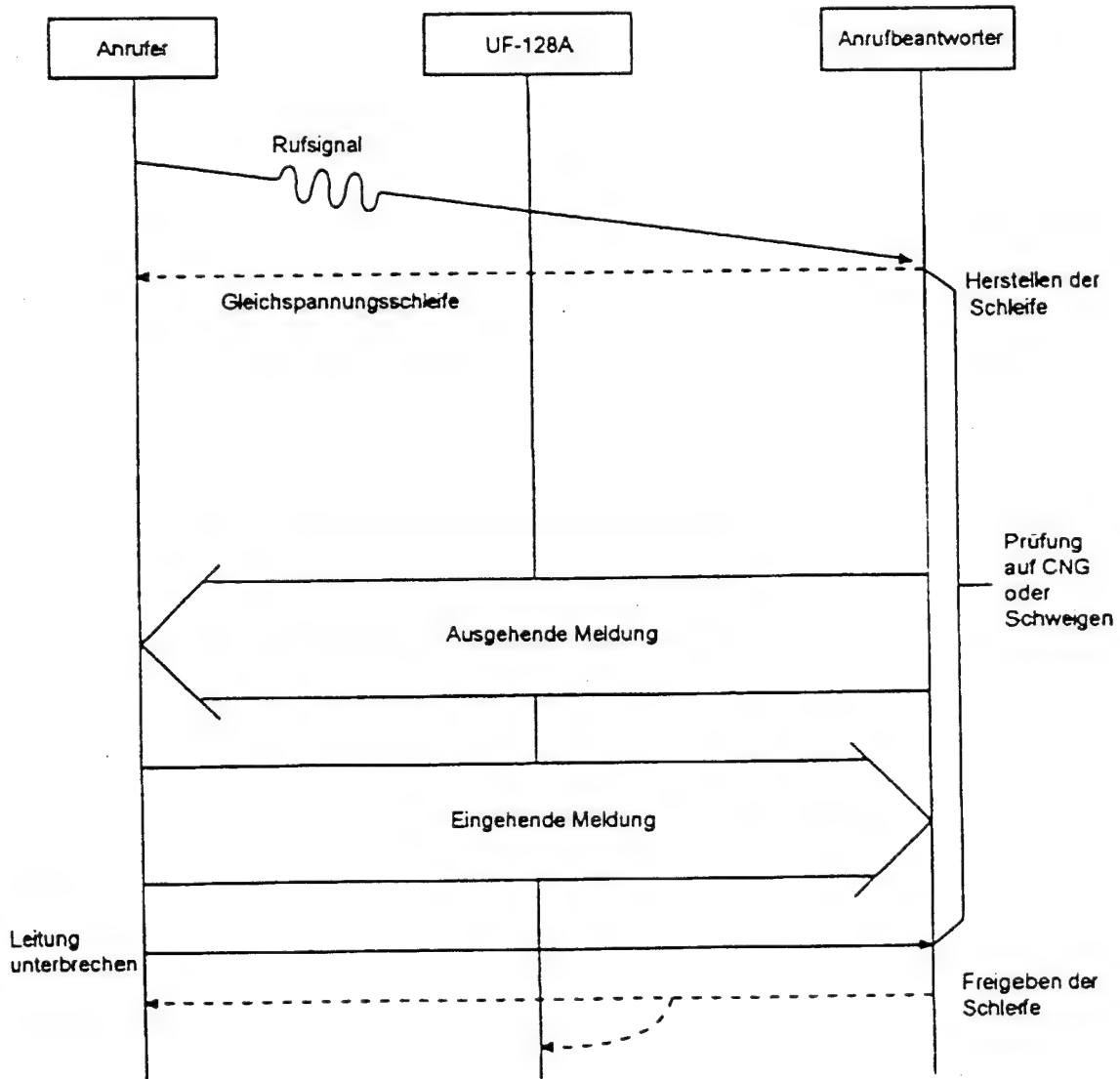


Abb. 6.9.3

Abbildung 6.9.3 zeigt den Betriebsablauf, wenn der Anrufer eine Person ist.

Wenn weder CNG noch eine Schweigeperiode entdeckt wird, bleibt der Anrufbeantworter bis zum Ende des Vorgangs angeschaltet.

b) Der eingehende Ruf stammt von einem Faxgerät

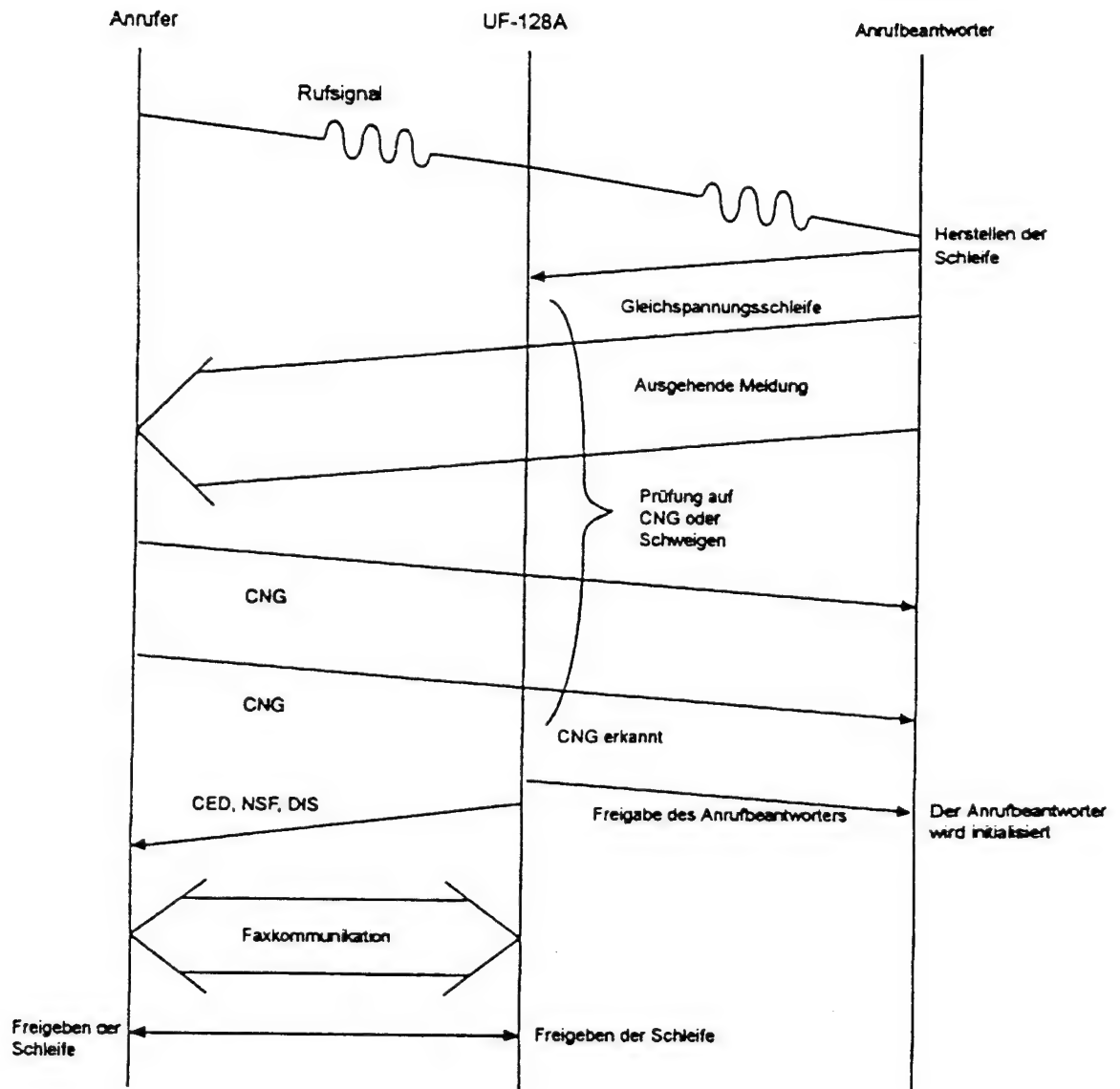


Abb. 6.9.4

Abbildung 6.9.4 zeigt den Betriebsablauf, wenn der Anrufer ein Faxgerät ist. Nach Erkennen des CNG-Signals beginnt der UF-128A mit der Faxkommunikation. Wenn das rufende Faxgerät kein CNG-Signal sendet, erkennt der UF-128A eine Schweigeperiode und beginnt ebenfalls mit der Faxkommunikation.

c) Der Anrufbeantworter antwortet nicht

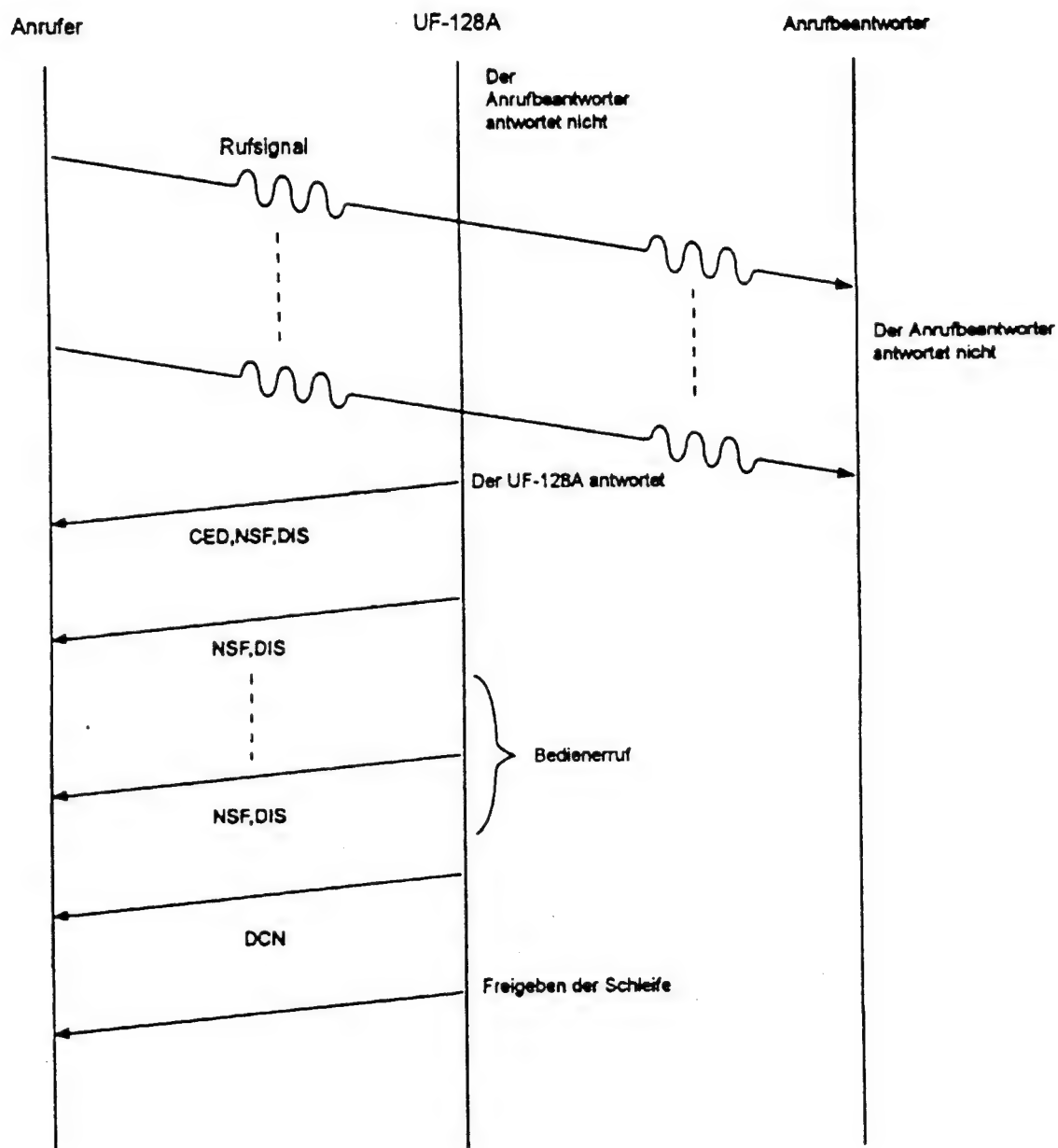


Abb. 6.9.5

Abbildung 6.9.5 zeigt den Betriebsablauf, wenn der Anrufbeantworter nicht antwortet. Wenn der Anrufer ein Faxgerät ist, antwortet der UF-128A nach 8 Rufsignalen und sendet ein Faxkommunikationssignal (CED, NSF, DIS ...).

6.9.2.2 Automatische Umschaltung FAX/TELEFON

Einstellung: Empfangsmodus = Auto und Faxparameter # 37 = 1 (Anrufbeantworter nicht angeschlossen)

Die Betriebsart mit automatischer Umschaltung zwischen Fax und Telefon wird benutzt, wenn der Anrufbeantworter nicht angeschlossen ist. In dieser Betriebsart wird die Schleife vom UF-128A hergestellt.

Der UF-128A ermittelt, ob es sich beim Anrufer um ein Faxgerät oder um eine Person handelt, indem es nach einem CNG-Signal sucht.

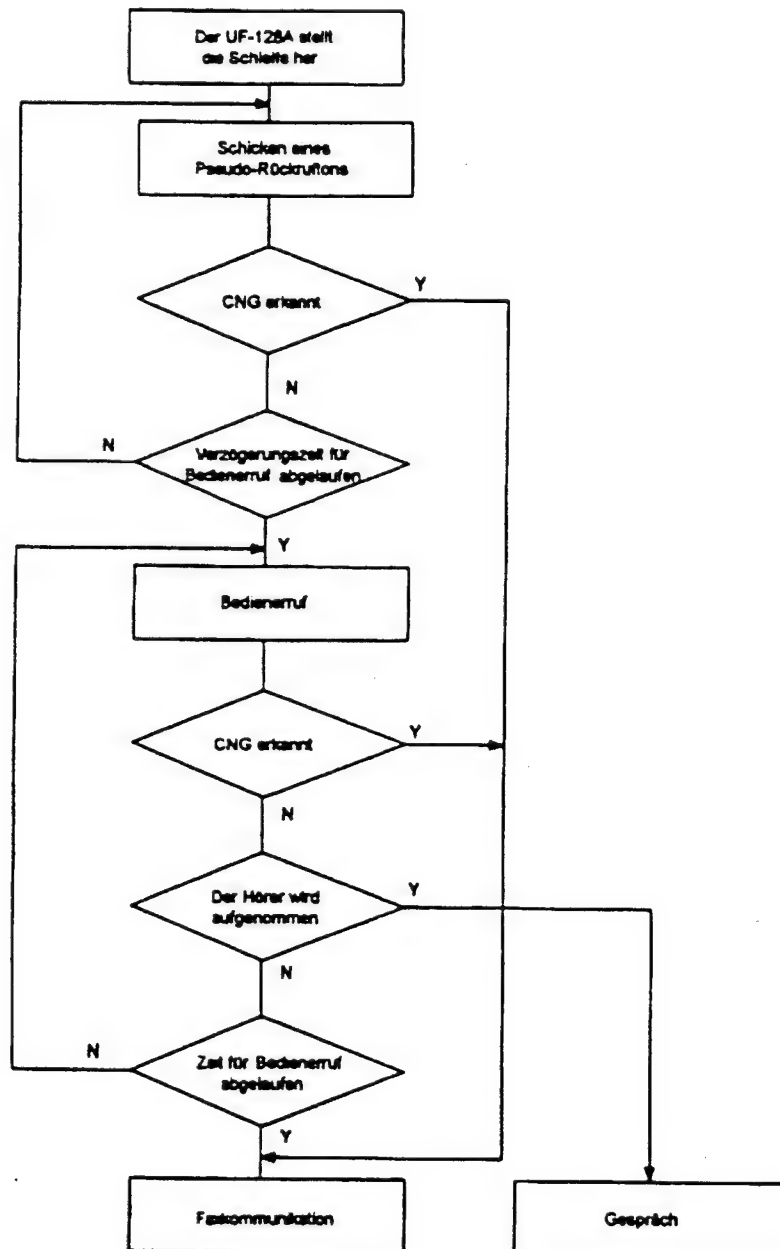


Abb. 6.9.6

Erläuterung: Y = Ja und N = Nein.

Abbildung 6.9.6 zeigt das Flußdiagramm für die Betriebsart Fax/Telefon.
 Wenn CNG erkannt wird, fährt der UF-128A mit der Faxkommunikation fort.
 Wenn kein CNG erkannt wird, erzeugt der UF-128A einen Bediennerruf.

a) Der eingehende Ruf stammt von einer Person

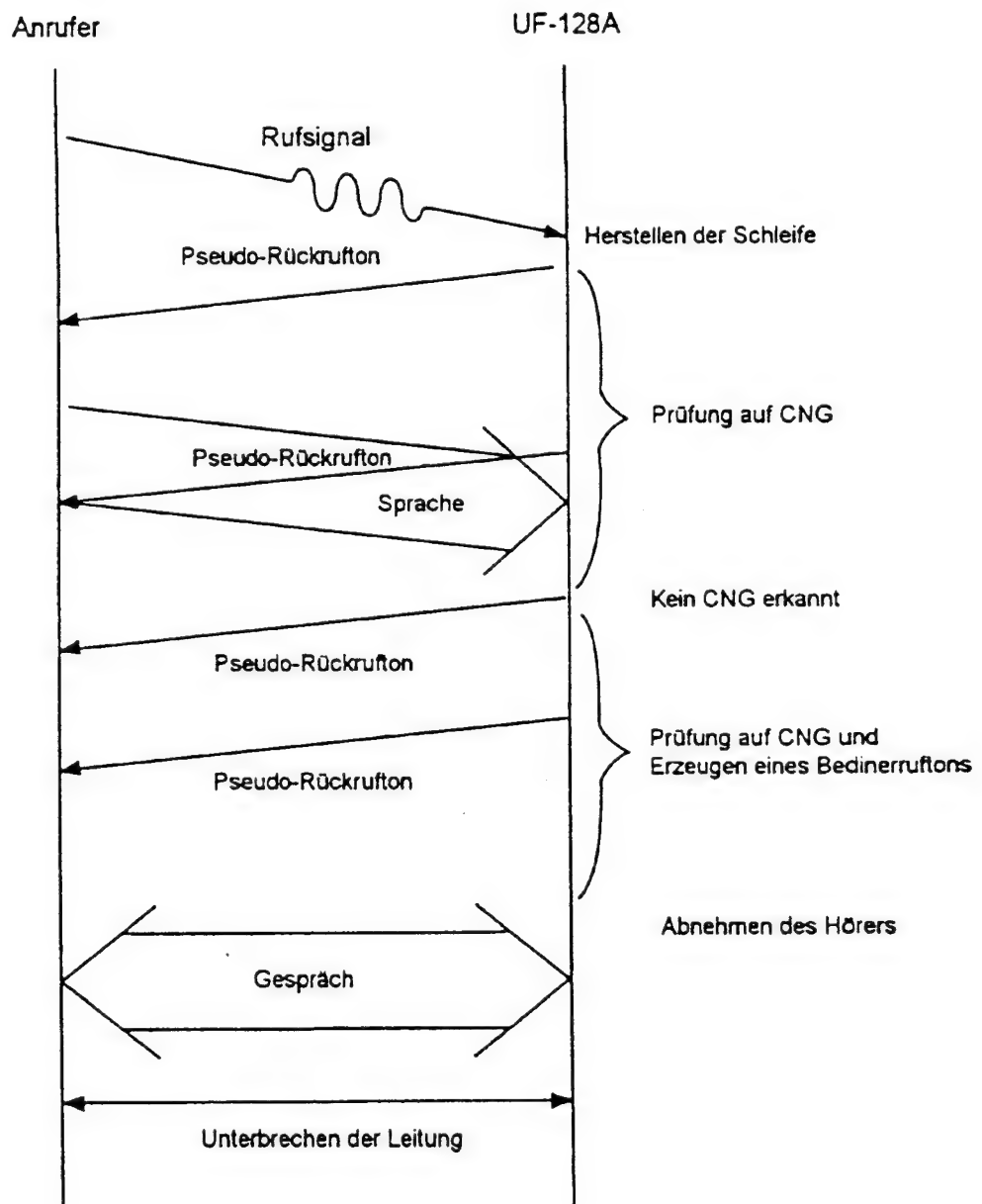


Abb. 6.9.7

Abbildung 6.9.7 zeigt den Betriebsablauf, wenn der Anrufer eine Person ist.
 Der UF-128A schickt einen Pseudo-Rückruf zum Anrufer. Wenn der Anrufer eine Person ist, wird kein CNG erkannt. Der UF-128A erzeugt über den eingebauten Summer einen Bediennerruf und prüft weiterhin, ob ein CNG-Signal eintrifft.

b) Der eingehende Ruf stammt von einem Faxgerät

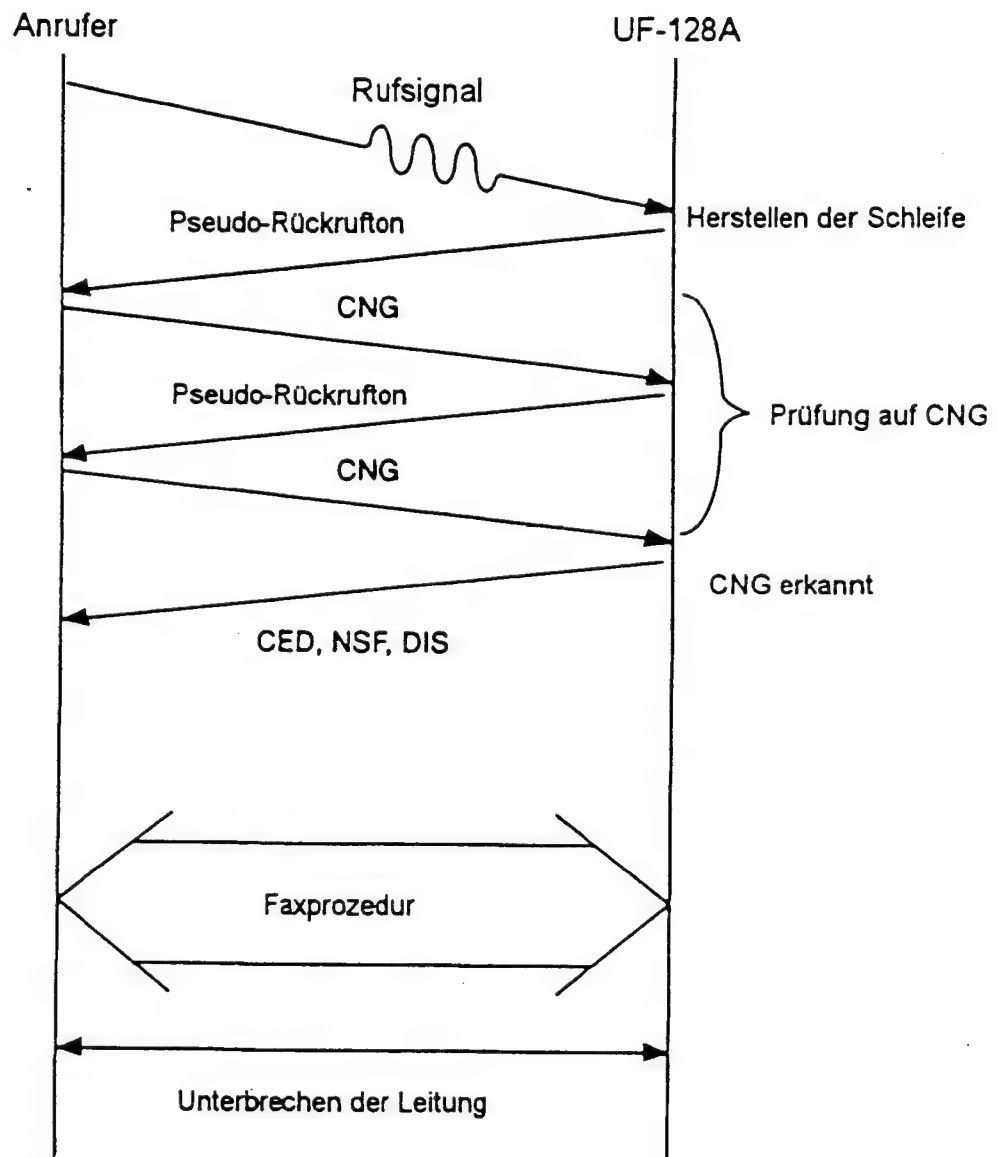


Abbildung 6.9.8 zeigt den Betriebsablauf, wenn der Anrufer ein Faxgerät ist. Wenn ein CNG-Signal erkannt wird, beginnt der UF-128A die Faxkommunikation. Wenn das rufende Faxgerät kein CNG-Signal schickt, beginnt der UF-128A die Faxprozedur auch ohne Nachweis eines CNG-Signals nach einem Bediennerruf.

c) Die Bedienperson am UF-128A nimmt den Hörer nicht ab

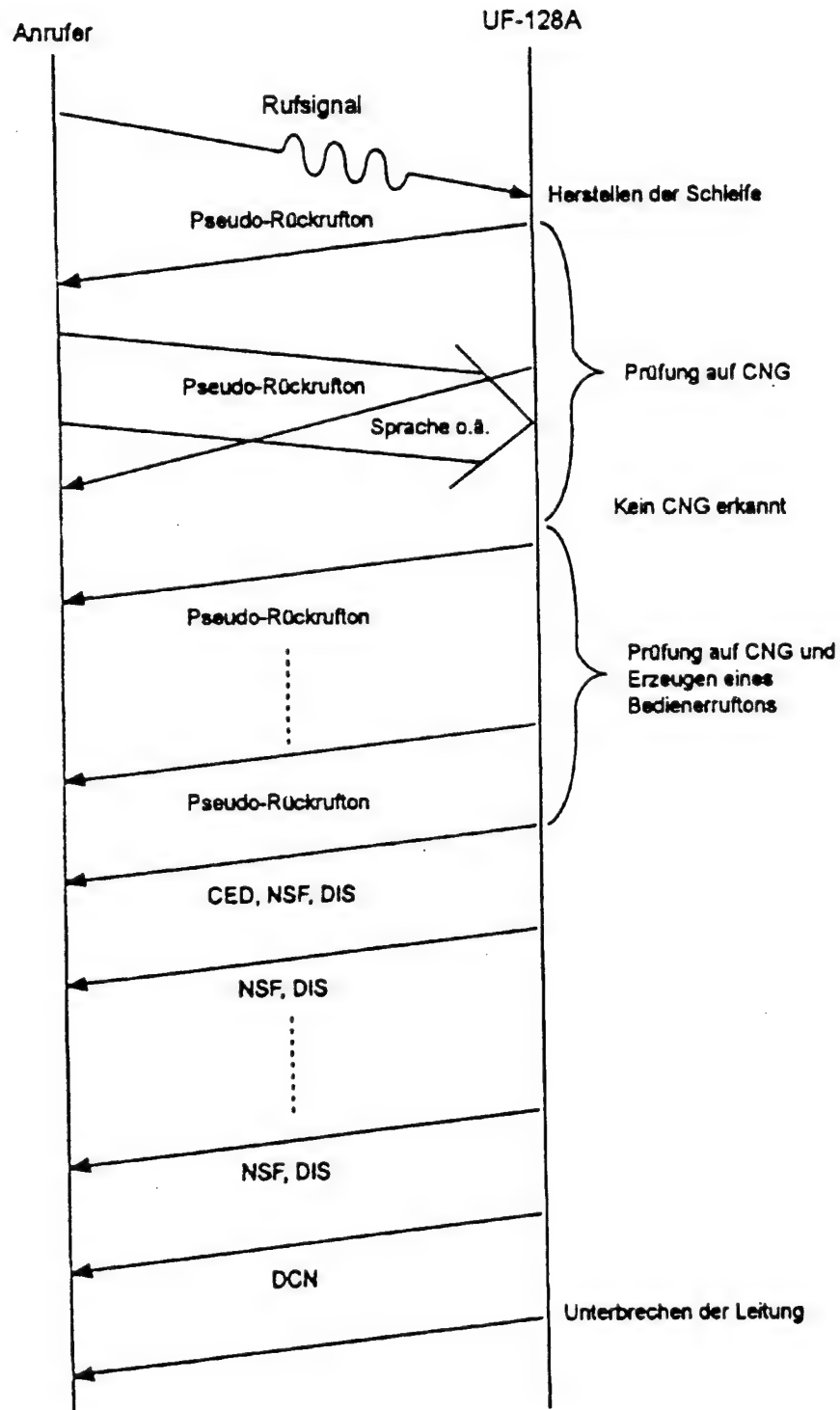


Abb. 6.9.9

Abbildung 6.9.9 zeigt den Betriebsablauf, wenn kein CNG erkannt wird und die Bedienperson am UF-128A den Hörer nicht abnimmt. In diesem Fall schickt der UF-128A am Ende der Sequenz Faxkommunikationssignale (CED, NSF, DIS), auch wenn kein CNG-Signal erkannt wurde.

6.9.2.3 Pseudo-Rückrufton

Der erzeugte Pseudo-Rückrufton hat eine Frequenz von 600 Hz, wird mit 25 Hz moduliert und ist für jeweils eine Sekunde ein- und für fünf Sekunden ausgeschaltet. Die Frequenz (600 Hz) sowie die Ein- und Ausschaltdauer können im RAM geändert werden.

a) 600 Hz moduliert durch 25 Hz Ein/Aus

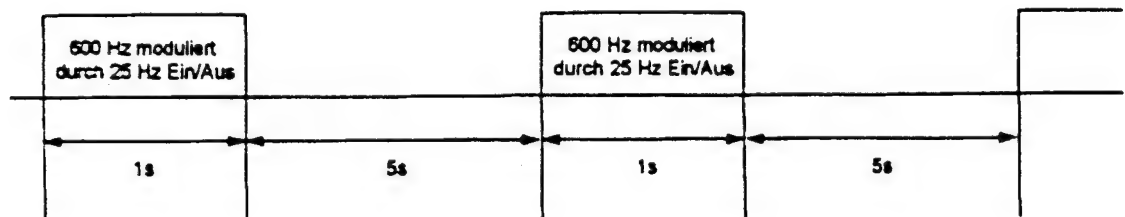


Abb. 6.9.10 Struktur des Pseudo-Rückruftons

Die Ausschalzeit des Pseudo-Rückruftons muß mindestens 4 s betragen, damit in dieser Zeit ein CNG-Signal erkannt werden kann.

6.9.2.4 CNG-Nachweis

Bei der Prüfung des CNG-Signals (1100 Hz) wird die Einschaltzeit zwischen Einschaltflanke und Ausschaltflanke und die Ausschalzeit zwischen Ausschaltflanke und Einschaltflanke ermittelt. Wenn die Ein- und Ausschalzeiten innerhalb bestimmter Werte liegen, wird ein Zähler inkrementiert. Sobald dieser Zähler einen bestimmten Wert erreicht, wird das Signal als CNG-Signal erkannt. Die Prüfung des CNG-Signals beginnt mit seiner Einschaltflanke. Wenn für die Ein- und/oder Ausschalzeiten keine Werte vorgegeben worden sind, beginnt die Prüfung von Anfang an.

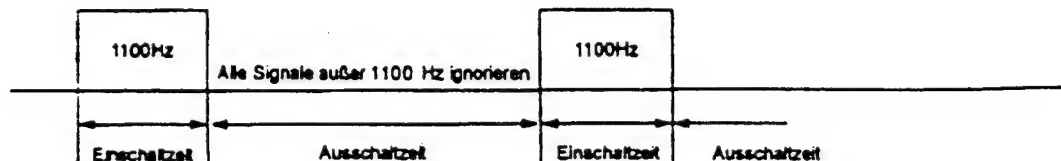


Abb. 6.9.11 CNG-Nachweis

Der Nachweis der CNG-Signalstruktur wird wie folgt durchgeführt:

i) Ermittlung bei einem CNG-Signal

Prüfdauer 0,5 bis 3,5 s

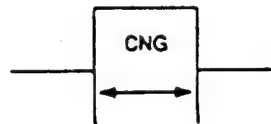


Abb. 6.9.12

ii) Ermittlung bei zwei CNG-Signalen

Prüfdauer 4,0 bis 7,0 s

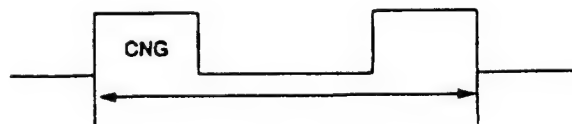


Abb. 6.9.13

6.9.2.5 "Kein Ton"-Nachweis

Wie Abbildung TG.9.14 zeigt, wird der Timer nach Beginn des "Kein Ton"-Nachweises integriert. Wenn der Timer die Einstellzeit erreicht, dann wird "Kein Ton" erkannt. Wird dagegen ein Signal nachgewiesen, das länger als die vorgegebene Zeit ist, dann wird der Integrationswert gelöscht, und die Integration beginnt von neuem.

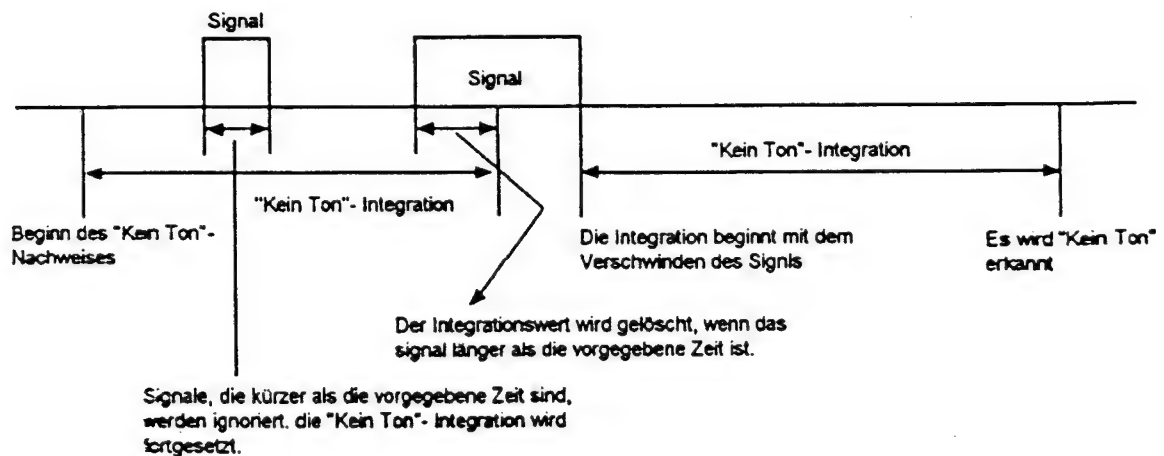


Abb. 6.9.14 "Kein Ton"-Nachweis

6.9.3 Hardware

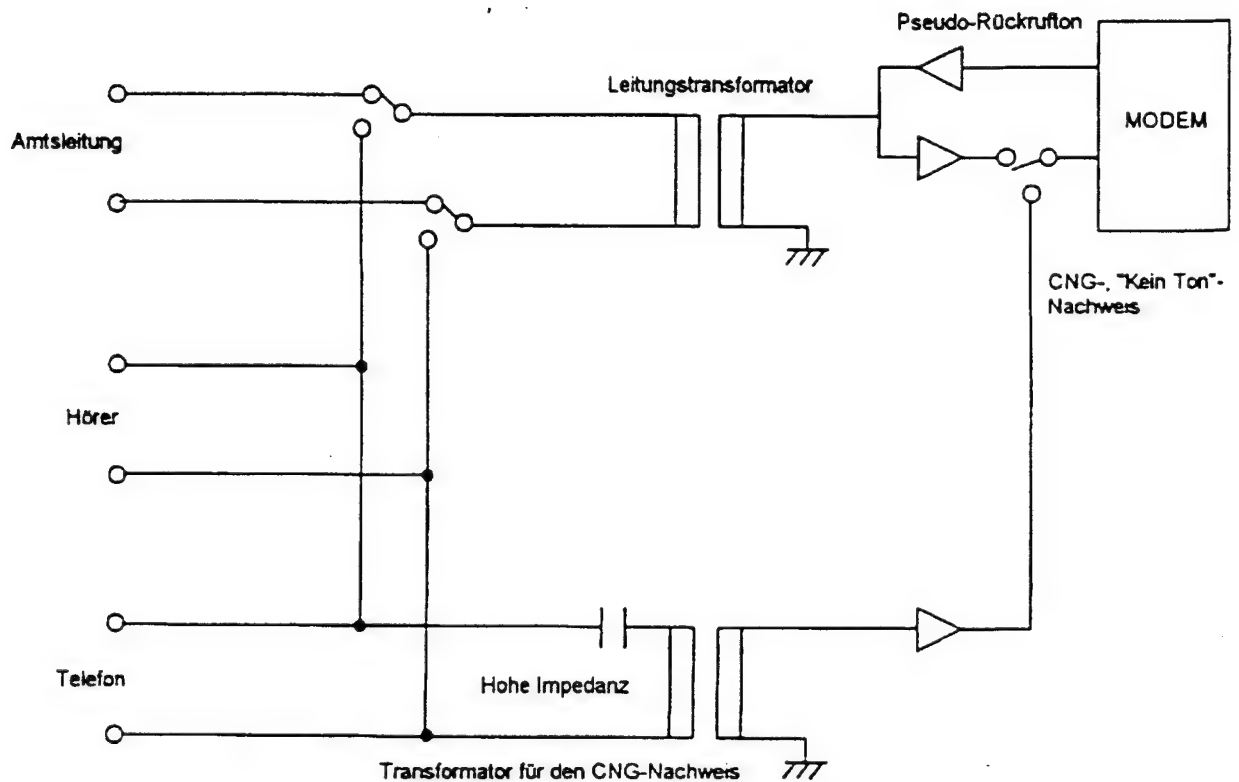


Abb. 6.9.15 "Kein Ton"-Nachweisschaltung

Abbildung 6.9.15 zeigt die Schaltung für den CNG- und den "Kein Ton"-Nachweis sowie für die Erzeugung des Pseudo-Rückruftons. CNG und "Kein Ton" werden vom Modem geprüft. Die Erzeugung des Rückruftons wird ebenfalls vom Modem übernommen.

1. Die Methode der Anrufbeantworterschnittstelle zum CNG- und "Kein Ton"-Nachweis. Der UF-128A erkennt CNG und "Kein Ton", nachdem der Anrufbeantworter die Amtsleitung übernommen hat, so daß die Signale nicht mehr über den Leitungstransformator übertragen werden.

Der Modemeingang wird zu diesem Zweck auf den CNG-Nachweistransformator umgeschaltet, der eine hohe Impedanz besitzt.

2. Die Methode des CNG-Nachweises in der Betriebsart Umschaltung Fax/Telefon. In der Betriebsart Umschaltung Fax/Telefon erkennt der UF-128A das CNG-Signal, nachdem er die Leitung übernommen hat. Der Modemanschluß bleibt wie bei der normalen Faxkommunikation mit dem Leitungstransformator verbunden.

6.9.4 Einstellung der RAM-Schalter

Die Tabelle der RAM-Schalter wird auf Seite 6-15 dargestellt. Die RAM-Daten können im Service-Modus 2 unter den Adressen # 0F0 bis # 0FE und # 09F gesetzt werden.

Inhalt für Service-Modus 2

# 0F0	[Voreinstellung]	"63H"
	[Einstellung]	<ul style="list-style-type: none">• Mit/ohne Anrufbeantworter• CNG-Nachweis EIN• CNG/Prüfung der Einschaltzeit• CNG/Prüfung der Ausschaltzeit <ul style="list-style-type: none">• Erforderliches Bit setzen.• Wenn eine Anrufbeantworterschnittstelle bereitgestellt wird, auf "E3H" setzen.• In der Betriebsart Umschaltung Telefon/Fax auf "63H" setzen.
# 0F1	[Voreinstellung]	"21H"
	[Einstellung]	<ul style="list-style-type: none">• Nachweis von zwei CNG-Signalen.• Für den CNG-Nachweis wird die Anzahl CNG AUS/EIN gesetzt.• Nachweis von einem CNG-Signal: 10H• Nachweis von zwei CNG-Signalen: 21H
# 0F2 - # 0F5	[Voreinstellung]	"15H", "1EH", "80H", "ADH"
	[Einstellung]	Einschaltdauer 420 bis 600 ms Ausschaltdauer 2560 bis 3460 ms <ul style="list-style-type: none">• Setzen des Prüfdauerbereichs für CNG AUS/EIN• Prüfdauer = "Eingegebener Wert" x 20 ms
# 0F6	[Voreinstellung]	"10H"
	[Einstellung]	600 Hz <ul style="list-style-type: none">• Frequenzwahl für den Pseudo-Rückruftön• Frequenz = "Eingegebener Wert (D)" x 256 / 6827 [Hz]
# 0F7	[Voreinstellung]	"BCH"
	[Einstellung]	600 s <ul style="list-style-type: none">• Wahl des Nachweiszeitraums für Schweigen, während der Anrufbeantworter auf die Leitung geschaltet ist.• Wahl des Zeitraums für den CNG-Nachweis, nachdem das Rufsignal durch Abnehmen des zugehörigen Hörers abgeschaltet worden ist. Alle Werte in Schritten von 1 Sekunde.
# 0F8	[Voreinstellung]	"14H"
	[Einstellung]	20 s <ul style="list-style-type: none">• Wahl der Bediennerrufdauer in der Betriebsart Umschaltung Fax/Telefon.• Einstellung in Schritten von 1 Sekunde.

- | | | | |
|--------------|--|--------------------------------|--------------|
| # 0F9 | [Voreinstellung] | "46H" | |
| | [Einstellung] | 3,5 s | |
| | Wahl der Integrationszeit beim "Kein Ton"-Nachweis für die Anrufbeantworterschnittstelle. | | |
| | Integrationsdauer = "Eingegebener Wert" x 50 ms | | |
| # 0FA | [Voreinstellung] | "05H" | |
| | [Einstellung] | 5 s | |
| | <ul style="list-style-type: none"> Wahl der Dauer für "Kein Bedienerruf" in der Betriebsart Umschaltung Fax/Telefon. Einstellung in Schritten von 1 Sekunde. | | |
| # 0FB | [Voreinstellung] | "04H" | |
| | [Einstellung] | 0,2 s | |
| | <ul style="list-style-type: none"> Wenn in der Betriebsart Umschaltung Fax/ Telefon das eingehende Signal länger als dieser Wert ist, wird es als Sprache eingestuft. | | |
| | Dauer = "Eingegebener Wert" x 50 ms | | |
| # 0FC, # 0FE | [Voreinstellung] | "14H", "64H" | |
| | [Einstellung] | Einschaltdauer 1 s | |
| | | Ausschaltdauer 5 s | |
| | <ul style="list-style-type: none"> Wahl der Ein- und Ausschaltdauer für den Pseudo-Rückrufton. Dauer = "Eingegebener Wert" x 50 ms | | |
| # 09F | [Voreinstellung] | "60H" | |
| | [Einstellung] | Anrufbeantworterschnittstelle: | 8 Rufsignale |
| | | Fax/Telefon: | 2 Rufsignale |

Abb. 6.9.16

Hinweis: Gegenüber den im Service-Modus 2 eingegebenen Werten kann eine Abweichung von maximal 1 auftreten.

Tabelle der RAM-Schalter für die Betriebsarten Anrufbeantworterschnittstelle und Umschaltung Fax/Telefon

Service-Modus 2	Bit 7	6	5	4	3	2	1	0
# 0F0	mit Anruf-beantworter	CNG-Nachweis	"Kein Ton"-Nachweis				Prüfung der CNG-Einschaltdauer	Prüfung der CNG-Ausschaltdauer
# 0F1	Anzahl der CNG-Einschaltflanken					Anzahl der CNG-Ausschaltflanken		
# 0F2	CNG-Einschaltdauer (Min) [20 ms]							
# 0F3	CNG-Einschaltdauer (Max) [20 ms]							
# 0F4	CNG-Ausschaltdauer (Min) [20 ms]							
# 0F5	CNG-Ausschaltdauer (Max) [20 ms]							
# 0F6	Parameter für die Rückruftfrequenz "Eingegebener Wert" x 256 / 6827 [Hz]							
# 0F7	1	Wahl des Nachweiszeitraums fr Schweigen, während der Anrufbeantworter auf die Leitung geschaltet ist. Wahl des Zeitraums für den CNG-Nachweis, nachdem das Rufsignal durch Abnehmen des zugehörigen Hörers abgeschaltet worden ist. [s]						
# 0F8	0	Dauer des Bedienerrufs [s]						
# 0F9	Dauer der "Kein Ton"-Integration (Anrufbeantworterschnittstelle)							
# 0FA		Dauer von "Kein Bedienerruf" [s]						
# 0FB	Ignoranzzeit beim "Kein Ton"-Nachweis [50 ms]							
# 0FC	Einschaltdauer Rückrufton [50 ms]							
# 0FD	Nicht benutzt							
# 0FE	Ausschaltdauer Rückrufton [50 ms]							
# 09F	Anzahl CNG Ein					Anzahl CNG Ein		

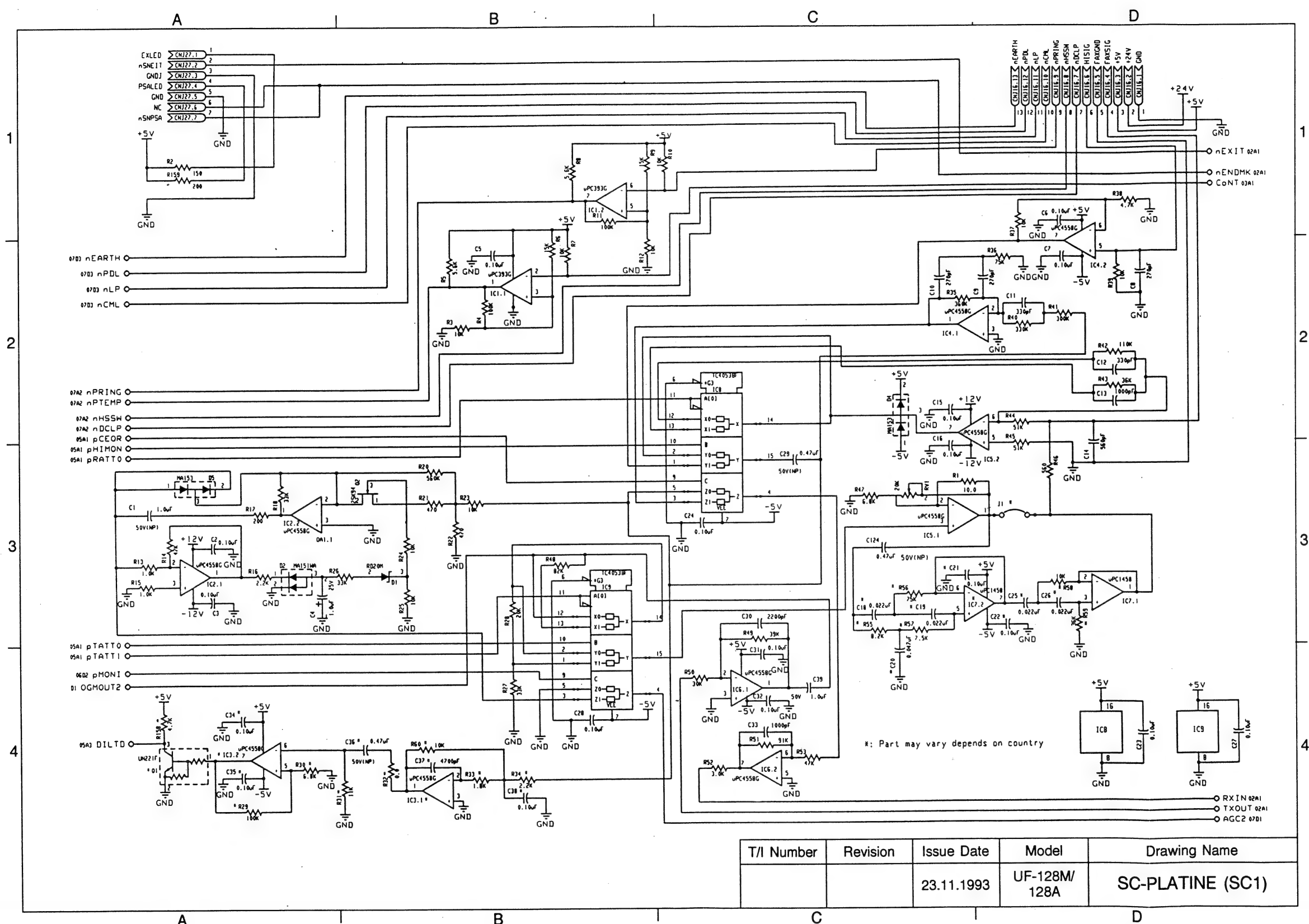
Kapitel 7

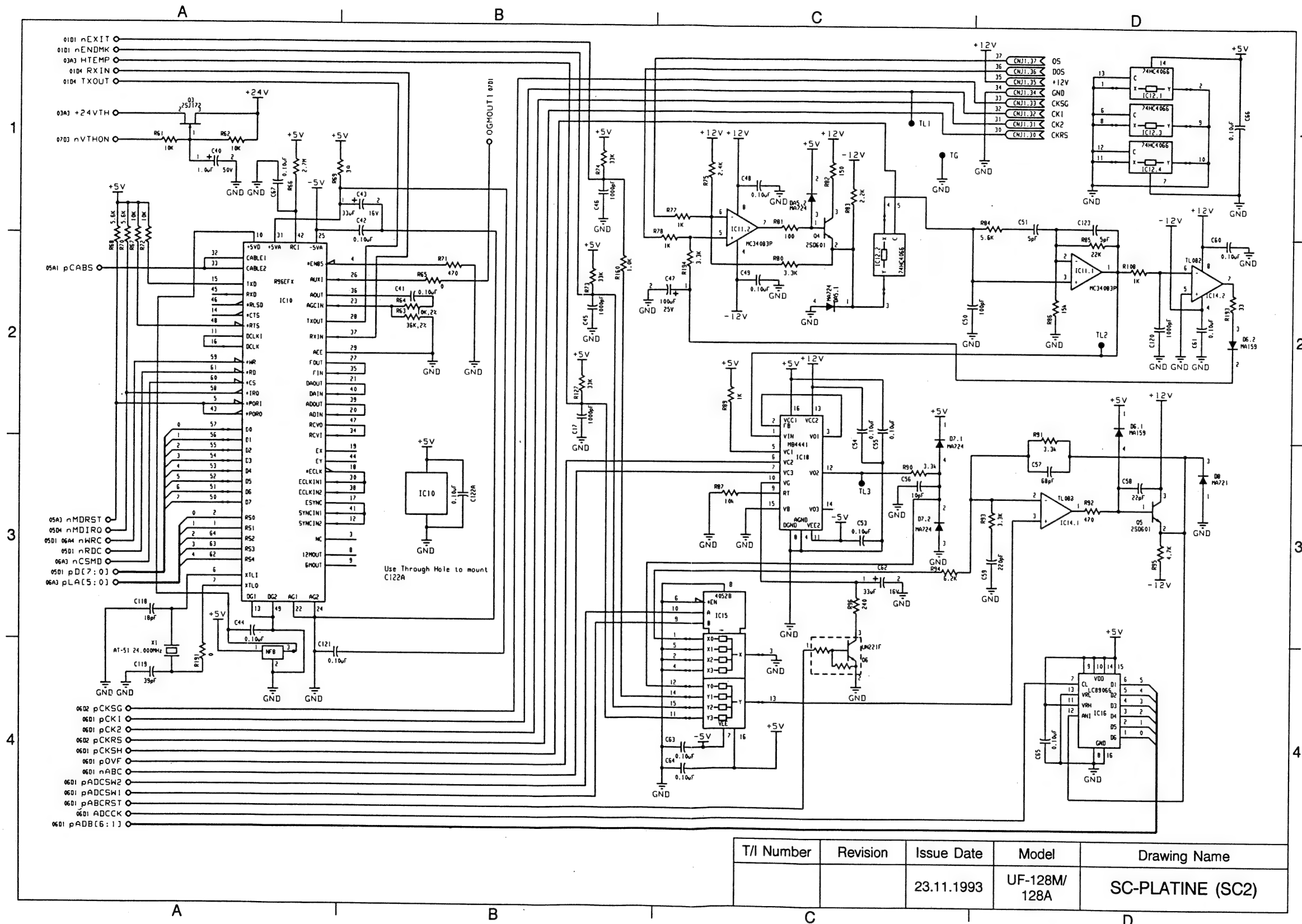
Schaltpläne

7.1	SC-Platine	7-3
7.2	LCU-Platine	7-15
7.3	SRU-Platine	7-18

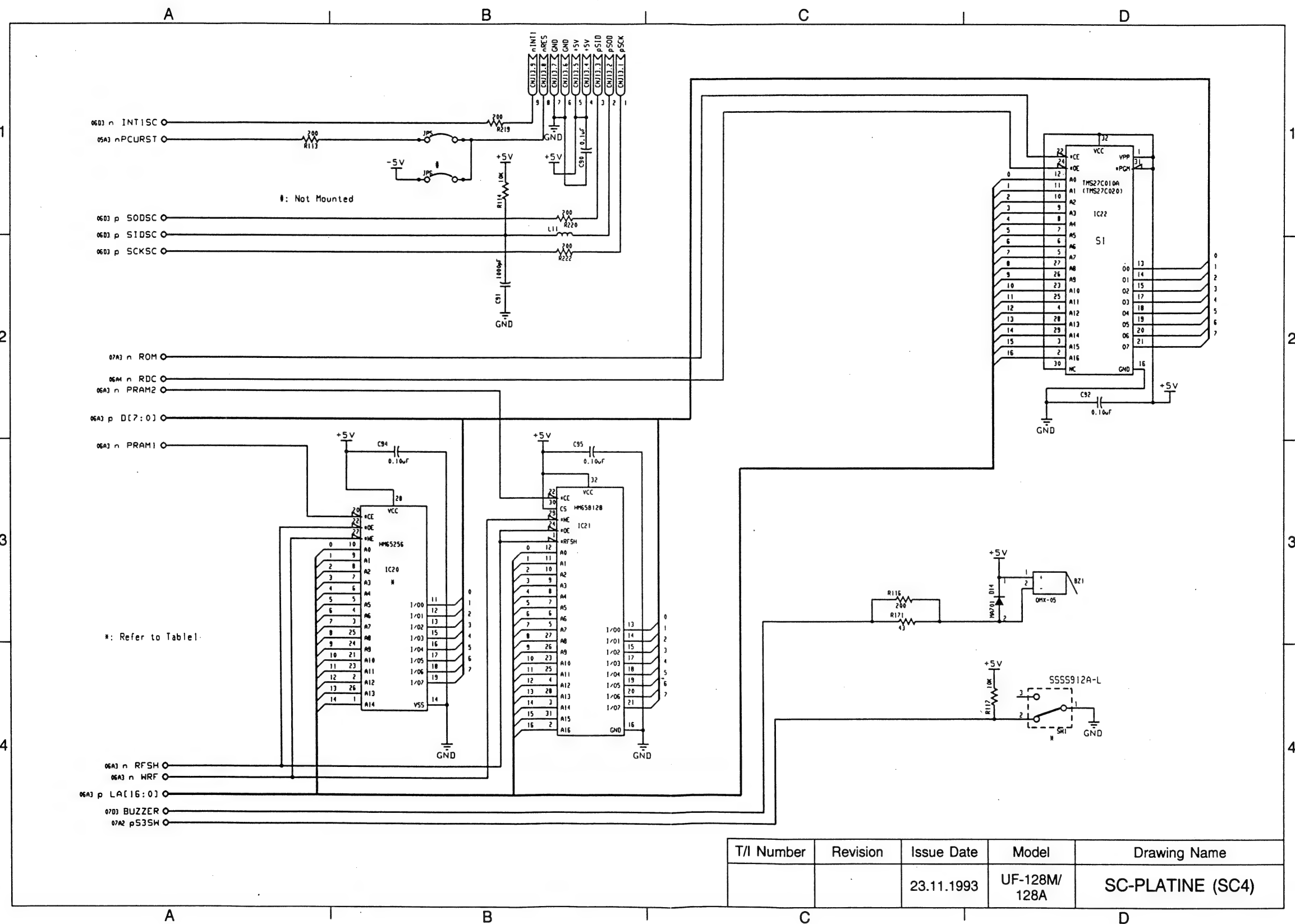
Ref. No.	Part No.	Part Name	Description

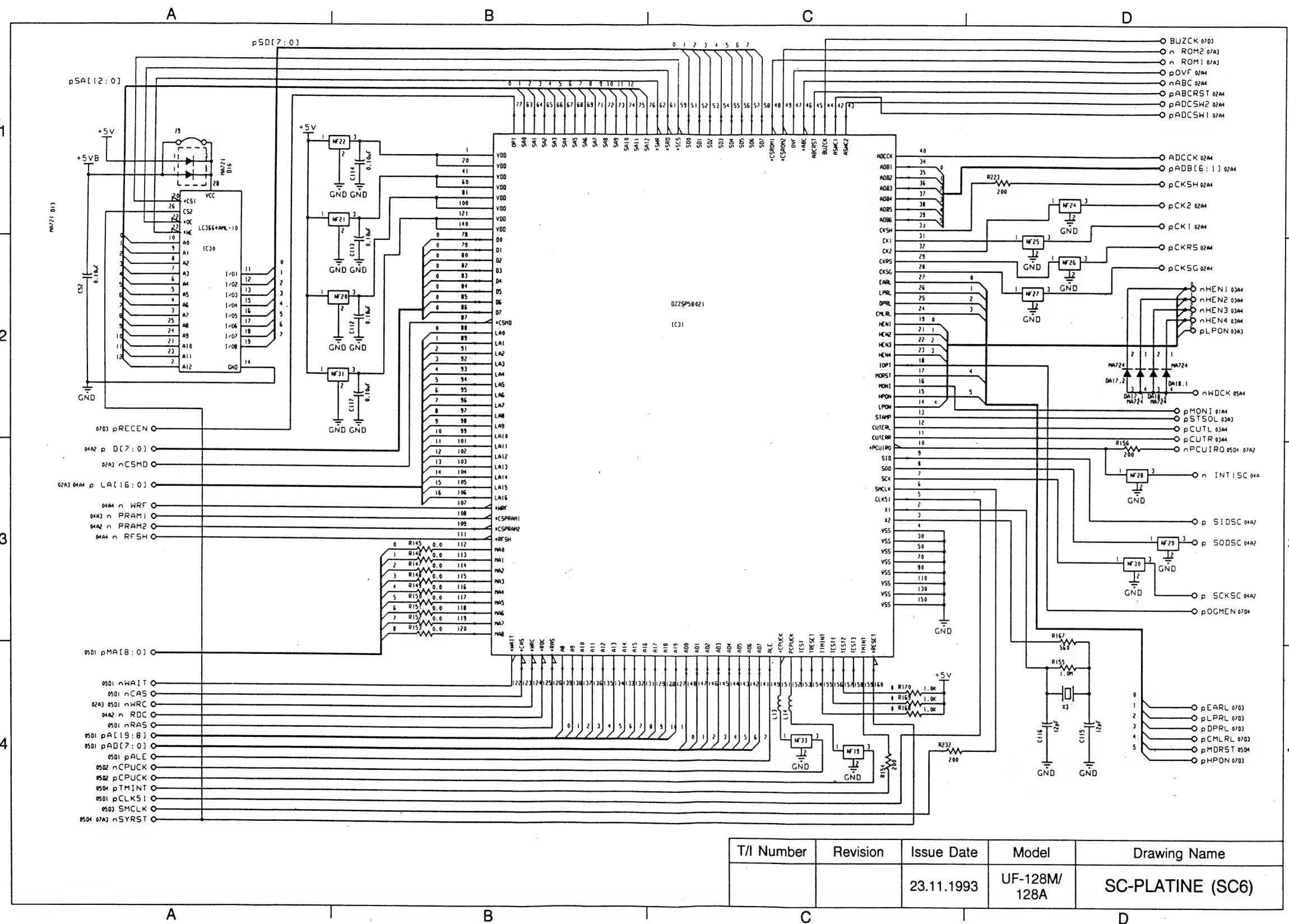
Cr	Chip Resistor
Cfr	Carbon Film Resistor
Cer	Ceramic Resistor
Mfr	Metal Film Resistor
MOfr	Metal Oxide Film Resistor
Vr	Variable Resistor
Jr	Jumper Resistor
Cj	Chip Jumper
Cc	Ceramic Chip Capacitor
CTc	Ceramic Trimmer Chip Capacitor
Pfc	Polyester Film Capacitor
Ec	Electrolytic Capacitor
TEc	Tantalum Electrolytic Capacitor

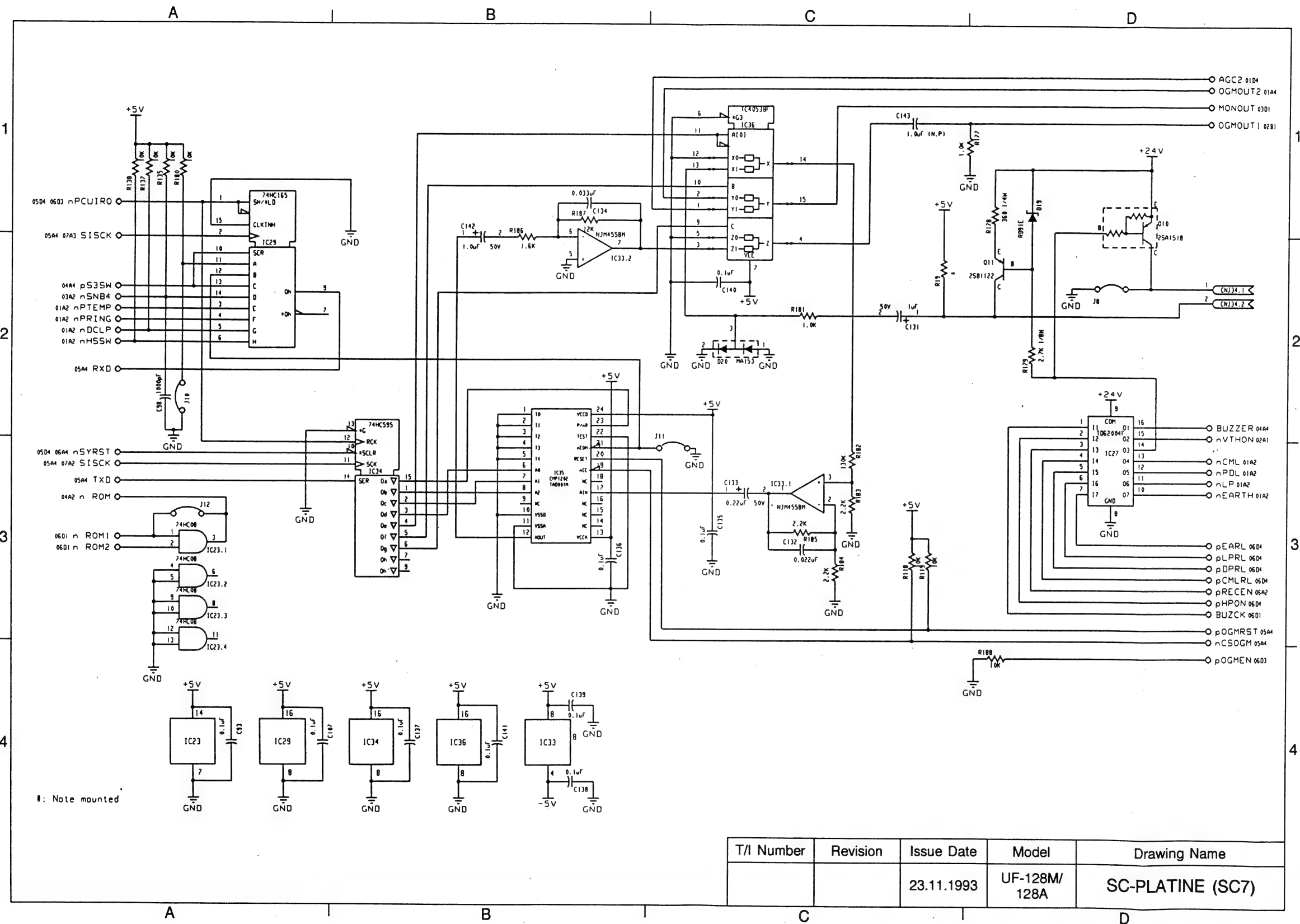


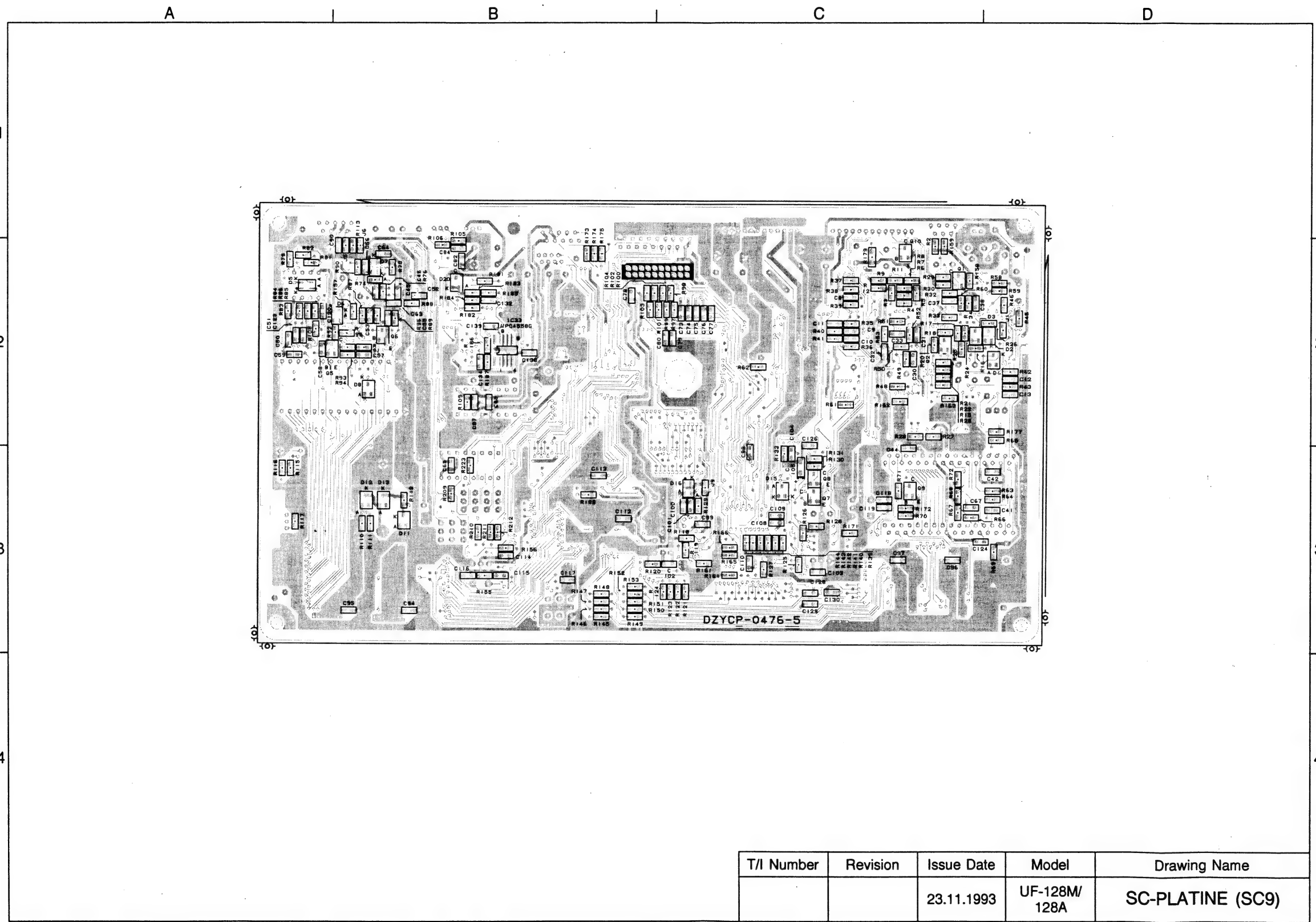


T/I Number	Revision	Issue Date	Model	Drawing Name
		23.11.1993	UF-128M/128A	SC-PLATINE (SC2)









T/I Number	Revision	Issue Date	Model	Drawing Name
		23.11.1993	UF-128M/ 128A	SC-PLATINE (SC9)

7.1 SC-Platine (DZYC0476) (1 / 3)

Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
BAT1	VL23201HF	Battery		C61	ECUV1H104ZFX	Cc	0.1uF 50V
BZ1	QMX05	Buzzer		C62	ECEA1EKK3R3B	Ec	33uF 16V 20%
BZ1	CB12CP			C63	ECUV1H104ZFX	Cc	0.1uF 50V
C1	ECEA1HSN010B	Ec	1uF 50V 20%	C64	ECUV1H104ZFX	Cc	0.1uF 50V
C2	ECUV1H104ZFX	Cc	0.1uF 50V	C65	ECUV1H104ZFX	Cc	0.1uF 50V
C3	ECUV1H104ZFX	Cc	0.1uF 50V	C66	ECUV1H104ZFX	Cc	0.1uF 50V
C4	ECEA1HKS010B	Ec	1uF 50V 20%	C67	ECUV1H104ZFX	Cc	0.1uF 50V
C5	ECUV1H104ZFX	Cc	0.1uF 50V	C68	ECEA1VFS470B	Ec	47uF 35V
C6	ECUV1H104ZFX	Cc	0.1uF 50V	C69	ECEA1VFS470B	Ec	47uF 35V
C7	ECUV1H104ZFX	Cc	0.1uF 50V	C70	ECEA1CFS470B	Ec	47uF 16V
C8	ECUV1H271KBN	Cc	270pF 50V 10%	C71	ECEA1HFS470B	Ec	47uF 50V
C9	ECUV1H271KBN	Cc	270pF 50V 10%	C72	ECEA1EFS330B	Ec	33uF 25V
C10	ECUV1H271KBN	Cc	270pF 50V 10%	C73		Not Mounted	
C11	ECUV1H331KBN	Cc	330pF 50V 10%	C74		Not Mounted	
C12	ECUV1H331KBN	Cc	330pF 50V 10%	C75		Not Mounted	
C13	ECUV1H102KBN	Cc	1000pF 50V 10%	C76		Not Mounted	
C14	ECUV1H561KBN	Cc	560pF 50V 10%	C77		Not Mounted	
C15	ECUV1H104ZFX	Cc	0.1uF 50V	C78		Not Mounted	
C16	ECUV1H104ZFX	Cc	0.1uF 50V	C79		Not Mounted	
C23	ECUV1H104ZFX	Cc	0.1uF 50V	C80		Not Mounted	
C24	ECUV1H104ZFX	Cc	0.1uF 50V	C81	ECEA1CKS470B	Ec	47uF 16V 20%
C27	ECUV1H104ZFX	Cc	0.1uF 50V	C82	ECUV1H104ZFX	Cc	0.1uF 50V
C28	ECUV1H104ZFX	Cc	0.1uF 50V	C83	ECEA1CKS330B	Ec	33uF 10V 20%
C29	ECEA1HSNR47B	Ec (NP)	0.47uF 50V 20%	C84	ECUV1H472KBG	Cc	470uF 50V 10%
C30	ECUV1H222KBN	Cc	2200pF 50V 10%	C85	ECEA1CKS470B	Ec	47uF 16V 20%
C31	ECUV1H104ZFX	Cc	0.1uF 50V	C86	ECEA1CKS470B	Ec	47uF 16V 20%
C32	ECUV1H104ZFX	Cc	0.1uF 50V	C87	ECUV1H104ZFX	Cc	0.1uF 50V
C33	ECUV1H102KBN	Cc	1000pF 50V 10%	C88	ECUV1H104ZFX	Cc	0.1uF 50V
C34		Not Mounted		C89	ECEA1CKS100B	Ec	10uF 16V 20%
C35		Not Mounted		C90	ECUV1H104ZFX	Cc	0.1uF 50V
C36		Not Mounted		C91	ECUV1H102KBN	Cc	1000pF 50V 10%
C37		Not Mounted		C92	ECUV1H104ZFX	Cc	0.1uF 50V
C38		Not Mounted		C93	ECUV1H104ZFX	Cc	0.1uF 50V
C39	ECEA1HSN010B	Ec	1uF 50V 20%	C94	ECUV1H104ZFX	Cc	0.1uF 50V
C40	ECEA1HKS010B	Ec	1uF 50V 20%	C95	ECUV1H104ZFX	Cc	0.1uF 50V
C41	ECUV1E104KBN	Cc	0.1uF 25V 10%	C96	ECUV1H104ZFX	Cc	0.1uF 50V
C42	ECUV1H104ZFX	Cc	0.1uF 50V	C97	ECUV1H104ZFX	Cc	0.1uF 50V
C43	ECEA1CKS330B	Ec	33uF 16V 20%	C98	ECUV1H102KBN	Cc	1000pF 50V 10%
C44	ECUV1H104ZFX	Cc	0.1uF 50V	C99	ECUV1H104ZFX	Cc	0.1uF 50V
C45	ECUV1H102KBN	Cc	1000pF 50V 10%	C100	ECUV1H270JCG	Cc	27pF 50V 5%
C46	ECUV1H102KBN	Cc	1000pF 50V 10%	C101	ECUV1H220JCG	Cc	22pF 50V 5%
C47	ECEA1ESS101	Ec	100uF 25V	C102	ECUV1H104ZFX	Cc	0.1uF 50V
C48	ECUV1H104ZFX	Cc	0.1uF 50V	C103	ECUV1H104ZFX	Cc	0.1uF 50V
C49	ECUV1H104ZFX	Cc	0.1uF 50V	C104	ECUV1H104ZFX	Cc	0.1uF 50V
C50	ECUV1H101KBN	Cc	100pF 50V	C105	ECST1EY474R	Tantalum Ec	0.47uF 25V
C51	ECUV1H050DCN	Cc	5pF 50V	C106	ECUV1H104ZFX	Cc	0.1uF 50V
C52	ECUV1H102KBN	Cc	1000pF 50V 10%	C107	ECUV1H104ZFX	Cc	0.1uF 50V
C53	ECUV1H104ZFX	Cc	0.1uF 50V	C108	ECUV1H102KBN	Cc	1000pF 50V
C54	ECUV1H104ZFX	Cc	0.1uF 50V	C109	ECUV1H102KBN	Cc	1000pF 50V
C55	ECUV1H104ZFX	Cc	0.1uF 50V	C110	ECUV1H102KBN	Cc	1000pF 50V 10%
C56	ECUV1H100FCN	Cc	10pF 50V	C111	ECUV1H104ZFX	Cc	0.1uF 50V
C57	ECUV1H680JCG	Cc	68pF 5% 50V	C112	ECUV1H104ZFX	Cc	0.1uF 50V
C58	ECUV1H220JCG	Cc	22pF 5% 50V	C113	ECUV1H104ZFX	Cc	0.1uF 50V
C59	ECUV1H221KBN	Cc	220pF 50V	C114	ECUV1H104ZFX	Cc	0.1uF 50V
C60	ECUV1H104ZFX	Cc	0.1uF 50V	C115	ECUV1H120JCG	Cc	12pF 50V 5%

Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
C116	ECUV1H120JCG	Cc	12pF 50V 5%	D8	MA721	Diode	
C117	ECUV1H104ZFX	Cc	0.1uF 50V	D9	MA701	Diode	
C118	ECUV1H180JCG	Cc	18pF 50V 5%	D10	V03C	Diode	
C119	ECUV1H390JCG	Cc	39pF 50V 5%	D11	MA721	Diode	
C120	ECUV1H102KBN	Cc	1000pF 50V 10%	D12	MA721	Diode	
C121	ECUV1H104ZFX	Cc	0.1uF 50V	D13	MA721	Diode	
C122		Not Mounted		D14	MA701	Diode	
C124	ECUV1H102KBN	Cc	1000pF 50V 10%	D15	MA704WA	Diode	
C125	ECUV1H104ZFX	Cc	0.1uF 50V	D19	RD9.1EST1B		9.1V
C126	ECUV1H103KBN	Cc	0.01uF 50V 10%	D20	DAN217T147		
C127	ECUV1H104ZFX	Cc	0.1uF 50V		MA153-TX		
C130	ECUV1H104ZFX	Cc	0.1uF 50V	F1	TR5(K19370)	Fuse	
C131	ECEA1HKS010B	Ec	1uF 50V	IC1	uPC393G	IC,COMPARATOR	
C132	ECUV1H223ZFX	Cc	0.022uF 50V	IC2	uPC4558G	IC,Operational Amplifier	
C133	ECEA1HKAR22B	Ec	0.22uF 50V		NJM4558M		
C134	ECUV1E333KBN	Cc	0.033uF 50V	IC3		Not Mounted	
C135	ECUV1H104ZFX	Cc	0.1uF 50V	IC4	uPC4558G	IC,Operational Amplifier	
C136	ECUV1H104ZFX	Cc	0.1uF 50V		NJM4558M		
C137	ECUV1H104ZFX	Cc	0.1uF 50V	IC5	uPC4558G	IC,Operational Amplifier	
C138	ECUV1H104ZFX	Cc	0.1uF 50V		NJM4558M		
C139	ECUV1H104ZFX	Cc	0.1uF 50V	IC6	uPC4558G	IC,Operational Amplifier	
C140	ECUV1H104ZFX	Cc	0.1uF 50V		NJM4558M		
C141	ECUV1H104ZFX	Cc	0.1uF 50V	IC7	uPC1458G	IC,Operational Amplifier	
C142	ECEA1HKS010B	Ec	1uF 50V				
C143	ECEA1HSN010B	Ec (NP)	1uF 50V	IC8	TC4053BF	IC,Analogue Switch	
CNJ10	B12BPHKS	Connector			BU4053BF		
CNJ11	DF112DDP2DSA	Connector		IC9	TC4053BF	IC,Analogue Switch	
CNJ12	No520300810	Connector			BU4053BF		
CNJ13	09FEBT	Connector		IC10	R96EFX	IC,Modem	
CNJ14	19FEBT	Connector		IC11	MC34083P	IC,Operational Amplifier	
CNJ15	No520451010	Connector		IC12	TC74HC4066AF	IC,Analogue Switch	
CNJ16	B13BPHKS	Connector		IC13	MB4441	IC,ABC	
CNJ27	07FEBT	Connector		IC14	TL082CPS	IC,Operational Amplifier	
CNJ28	B3BPHKM	Connector		IC15	TC4052BF	IC,Analogue Switch	
CNJ29	B3BPHKS	Connector		IC16	LC89066	IC,A/D Convertor	
CNJ34	B2BPHKS	Connector		IC17	NJM79L05UA	IC,Voltage Regulator	
D1	MA153	Diode		IC18	LB1644	IC,Motor Driver	
	DAN217T146			IC19	TA7368F	IC,AF POWER AMP	
D2	MA151WA	Diode		IC20	HM65256BLFP1	IC,PSEUDO SRAM	
	DAP202KT146				TC51832FL10		
D3	RD20M	Diode		IC21		Not Mounted	
D4	MA153	Diode		IC22	D27C010150	IC,EPROM	150ns
	DAN217T146			IC23	TC74HC08AFTP1	IC, HCMOS	
D5	MA724	Diode		IC24	LC324256J	IC,DRAM	
D6	MA159	Diode		IC25	LC324256J	IC,DRAM	
D7	MA724	Diode		IC26	TMP90C051F	IC,CPU	
				IC27	TD62004F	IC,Transistor Array	
				IC28	MM1035XFF	IC,WATCHDOG	
				IC29	TC74HC165AF	IC,CMOS	

7.1 SC-Platine (DZYC0476) (2 / 3)

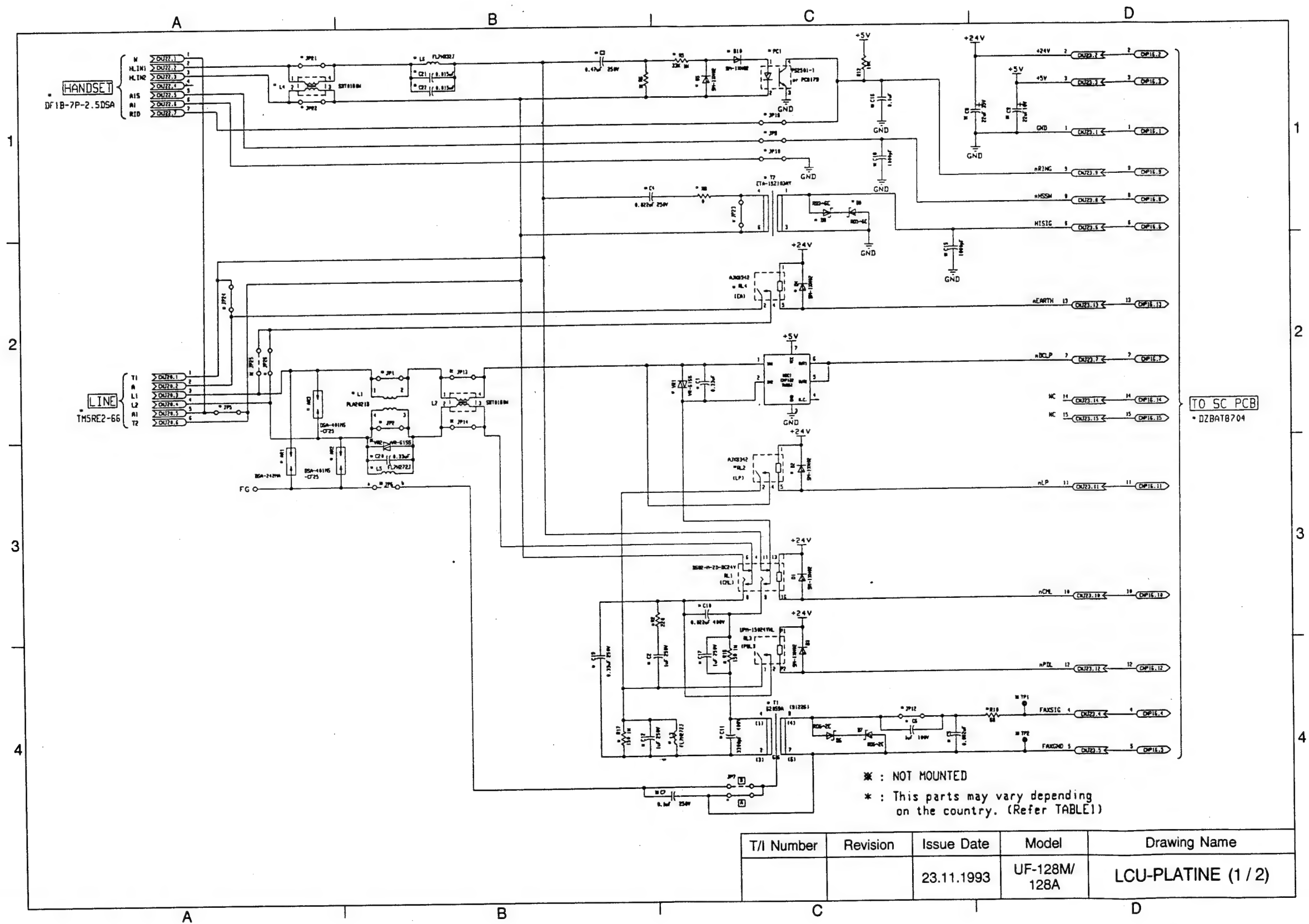
Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
IC30	LC3664AML10	IC,SRAM		R4	ERJ6GEYJ104V	Cr	100kΩ 1/10W 5%
IC31	DZZSP58021	IC,FPU GATE ARRAY		R5	ERJ6GEYJ562V	Cr	5.6kΩ 1/10W 5%
IC32	TC74HC04AF	Standard Logic		R6	ERJ6GEYJ153V	Cr	15kΩ 1/10W 5%
IC36	TC4053BF	IC,Analogue Switch		R7	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
IC33	uPC4558G	IC,Operational Amplifier		R8	ERJ6GEYJ562V	Cr	5.6kΩ 1/10W 5%
	NJM4558M			R9	ERJ6GEYJ153V	Cr	15kΩ 1/10W 5%
IC34	HD74HC595FPTR	IC, Shift Register		R10	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
	TC74HC595AF			R11	ERJ6GEYJ104V	Cr	100kΩ 1/10W 5%
IC35	TAD001GM-TRM	IC, Voice Record / Playback LSI		R12	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
J1		Not Mounted		R13	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%
J2		Not Mounted		R14	ERJ6GEYJ473V	Cr	47kΩ 1/10W 5%
J5	ERJ6GEY0R00V	Zero Ω Resistor		R15	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%
J6		Not Mounted		R16	ERJ6GEYJ222V	Cr	2.2kΩ 1/10W 5%
J8		Not Mounted		R17	ERJ6GEYJ201V	Cr	200Ω 1/10W 65%
J9	ERJ6GEY0R00V	Zero Ω Resistor		R18	ERJ6GEYJ333V	Cr	33kΩ 1/10W 5%
L4	HF70ACB3216	Inductor		R19	ERJ6GEY0R00V	Cr	0Ω 1/10W 5%
L11	HF70ACB3216	Inductor		R20	ERJ6GEYJ564V	Cr	560kΩ 1/10W 5%
L13	HF70ACB3216	CHIP INDUCTOR		R21	ERJ6GEYJ471V	Cr	470Ω 1/10W 5%
L14	HF70ACB3216	CHIP INDUCTOR		R22	ERJ6GEYJ471V	Cr	470Ω 1/10W 5%
NF8	ZJSR5101103	Emi Filter		R23	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
NF13	ZJSR5101103	Emi Filter		R24	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
NF17	ZJSR5101103	Emi Filter		R25	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
NF18	ZBF503D00TA	BEARDS FILTER		R26	ERJ6GEYJ333V	Cr	33kΩ 1/10W 5%
NF19	ZJSR5101470	Emi Filter		R27	ERJ6GEYJ333V	Cr	33kΩ 1/10W 5%
NF20	ZJSR5101223	Emi Filter		R28	ERJ6GEYJ203V	Cr	20kΩ 1/10W 5%
NF21	ZJSR5101223	Emi Filter		R29		Not Mounted	
NF22	ZJSR5101223	Emi Filter		R30		Not Mounted	
NF24	ZJSR5101470	Emi Filter		R31		Not Mounted	
NF25	ZJSR5101470	Emi Filter		R32		Not Mounted	
NF26	ZJSR5101470	Emi Filter		R33		Not Mounted	
NF27	ZJSR5101470	Emi Filter		R34		Not Mounted	
NF28	ZJSR5101470	Emi Filter		R35	ERJ6GEYJ364V	Cr	360kΩ 1/10W 5%
NF29	ZJSR5101470	Emi Filter		R36	ERJ6GEYJ753V	Cr	75kΩ 1/10W 5%
NF30	ZJSR5101470	Emi Filter		R37	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
NF31	ZJSR5101223	Emi Filter		R38	ERJ6GEYJ472V	Cr	4.7kΩ 1/10W 5%
NF33	ZJSR5101470	Emi Filter		R39	ERJ6GEYJ224V	Cr	220kΩ 1/10W 5%
Q1		Not Mounted		R40	ERJ6GEYJ334V	Cr	330kΩ 1/10W 5%
Q2	2SK94	FET		R41	ERJ6GEYJ304V	Cr	300kΩ 1/10W 5%
Q3	2SJ172	Power FET		R42	ERJ6GEYJ114V	Cr	110kΩ 1/10W 5%
Q4	2SD601AR	Transistor		R43	ERJ6GEYJ363V	Cr	36kΩ 1/10W 5%
Q5	2SD601AR	Transistor		R46	ERJ6GEYJ561V	Cr	560Ω 1/10W 5%
Q6	UN221F	Transistor					
Q7	UN2216	Transistor					
Q8	UN2216	Transistor					
Q9	UN221F	Transistor					
Q10	2SA1518TA	Transistor	500mA 50V				
Q11	2SB1122STC	Transistor	1A 50V				
R1		Not Mounted					
R2	ERJ6GEYJ151V	Cr	150Ω 1/10W 5%				
R3	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%				

Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
R47	ERJ6GEYJ682V	Cr	6.8kΩ 1/10W 5%	R100	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R48	ERJ6GEYJ823V	Cr	82kΩ 1/10W 5%	R101	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R49	ERJ6GEYJ393V	Cr	39kΩ 1/10W 5%	R102	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R50	ERJ6GEYJ303V	Cr	30kΩ 1/10W 5%	R103	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R51	ERJ6GEYJ913V	Cr	91kΩ 1/10W 5%	R104	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R52	ERJ6GEYJ302V	Cr	3.0kΩ 1/10W 5%	R105	ERJ6GEY0R00V	Cr	0Ω 1/10W 5%
R53	ERJ6GEYJ473V	Cr	47kΩ 1/10W 5%	R106	ERJ6GEYJ271V	Cr	270Ω 1/10W 5%
R60		Not Mounted		R108	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%
R61	ERJ6GEYJ103V			R109	ERJ6GEYJ473V	Cr	47kΩ 1/10W 5%
R62	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%	R110	ERJ6GEYJ271V	Cr	270Ω 1/10W 5%
R63	ERJ6GEYJ363V	Cr	36kΩ 1/10W 2%	R111	ERJ6GEYJ111V	Cr	110Ω 1/10W 5%
R64	ERJ6GEYJ103V	Cr	10kΩ 1/10W 2%	R112	ERJ6GEYJ471V	Cr	470Ω 1/10W 5%
R65	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%	R113	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R66	ERJ6GEYJ275V	Cr	2.7MΩ 1/10W 5%	R114	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R67	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%	R115	ERJ6GEYJ560V	Cr	56Ω 1/10W 5%
R68	ERJ6GEYJ562V	Cr	5.6kΩ 1/10W 5%	R116	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R69	ERJ6GEYJ3R0V	Cr	3Ω 1/10W 5%	R117	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R70	ERJ6GEYJ562V	Cr	5.6kΩ 1/10W 5%	R118	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R71	ERJ6GEYJ471V	Cr	470Ω 1/10W 5%	R119	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R72	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%	R120	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R73	ERJ6GEYJ333V	Cr	33kΩ 1/10W 5%	R121	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R74	ERJ6GEYJ513V	Cr	51kΩ 1/10W 5%	R122	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R75	ERJ6GEYJ242V	Cr	2.4kΩ 1/10W 5%	R123	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R76	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%	R124	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R77	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%	R125	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R78	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%	R126	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R79	ERJ6GEYJ332V	Cr	3.3kΩ 1/10W 5%	R127	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R80	ERJ6GEYJ332V	Cr	3.3kΩ 1/10W 5%	R128	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R81	ERJ6GEYJ101V	Cr	100Ω 1/10W 5%	R129	ERJ6GEYJ104V	Cr	100kΩ 1/10W 5%
R82	ERJ6GEYJ151V	Cr	150Ω 1/10W 5%	R130	ERJ6GEYJ562V	Cr	5.6kΩ 1/10W 5%
R83	ERJ6GEYJ222V	Cr	2.2kΩ 1/10W 5%	R131	ERJ6GEYJ331V	Cr	330Ω 1/10W 5%
R84	ERJ6GEYJ562V	Cr	5.6kΩ 1/10W 5%	R132	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R85	ERJ6GEYJ223V	Cr	22kΩ 1/10W 5%	R133	ERJ6GEY0R00V	Cr	0Ω 1/10W 5%
R86	ERJ6GEYJ153V	Cr	15kΩ 1/10W 5%	R134	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R87	ERJ6GEYJ473V	Cr	47kΩ 1/10W 5%	R135	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R88	ERJ6GEYJ333V	Cr	33kΩ 1/10W 5%	R136	ERJ6GEYJ471V	Cr	470Ω 1/10W 5%
R89	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%	R137	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R90	ERJ6GEYJ332V	Cr	3.3kΩ 1/10W 5%	R138	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R91	ERJ6GEYJ332V	Cr	3.3kΩ 1/10W 5%	R139	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R92	ERJ6GEYJ471V	Cr	470Ω 1/10W 5%	R140	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R93	ERJ6GEYJ332V	Cr	3.3kΩ 1/10W 5%	R141	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R94	ERJ6GEYJ622V	Cr	6.2kΩ 1/10W 5%	R142	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R95	ERJ6GEYJ472V	Cr	4.7kΩ 1/10W 5%	R143	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R96	ERJ6GEYJ241V	Cr	240Ω 1/10W 5%	R144	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%
R97	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%	R145	ERJ6GEYJ330V	Cr	33Ω 1/10W 5%
R98	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%	R146	ERJ6GEYJ330V	Cr	33Ω 1/10W 5%
R99	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%	R147	ERJ6GEYJ330V	Cr	33Ω 1/10W 5%

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Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
R148	ERJ6GEYJ330V	Cr	33Ω 1/10W 5%	R222	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R149	ERJ6GEYJ330V	Cr	33Ω 1/10W 5%	R223	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R150	ERJ6GEYJ330V	Cr	33Ω 1/10W 5%	R232	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%
R151	ERJ6GEYJ330V	Cr	33Ω 1/10W 5%	VR1	EVMMSA01B24		20KΩ
R152	ERJ6GEYJ330V	Cr	33Ω 1/10W 5%	S1	DICF32CSE	IC, SOCKET	
R153	ERJ6GEYJ330V	Cr	33Ω 1/10W 5%	X1	AT5124000MHZ	Crystal Oscillator	
R154	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%	X2	KF38G	Crystal Oscillator	32.768KHz
R155	ERJ6GEYJ105V	Cr	1MΩ 1/10W 5%	X3	AT5124000MHZ	Crystal Oscillator	
R156	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%				
R157	ERJ6GEYJ330V	Cr	33Ω 1/10W 5%				
R158	ERJ6GEYJ472V	Cr	4.7kΩ 1/10W 5%				
R159	ERJ6GEYJ151V	Cr	150Ω 1/10W 5%				
R160	ERJ6GEY561V	Cr	560Ω 1/10W 5%				
R161	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%				
R162	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%				
R163	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%				
R164	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%				
R165	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%				
R166	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%				
R167	ERJ6GEYJ516V	Cr	560Ω 1/10W 5%				
R168	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%				
R171	ERJ6GEYJ103V	Cr	1.0kΩ 1/10W 5%				
R172	ERJ6GEYJ562V	Cr	5.6kΩ 1/10W 5%				
R173	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%				
R174	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%				
R175	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%				
R177	ERJ6GEYJ102V	Cr	1.0kΩ 1/10W 5%				
R178	ERJ14YJ361V	Cr	360Ω 1/4W 5%				
R179	ERJ8GEYJ272V	Cr	2.7KΩ 1/10W 5%				
R180	ERJ6GEYJ103V	Cr	10KΩ 1/10W 5%				
R181	ERJ6GEYJ102V	Cr	1.0KΩ 1/10W 5%				
R182	ERJ6GEYJ134V	Cr	130KΩ 1/10W 5%				
R183	ERJ6GEYJ222V	Cr	2.2KΩ 1/10W 5%				
R184	ERJ6GEYJ222V	Cr	2.2KΩ 1/10W 5%				
R185	ERJ6GEYJ222V	Cr	2.2KΩ 1/10W 5%				
R186	ERJ6GEYJ162V	Cr	1.6KΩ 1/10W 5%				
R187	ERJ6GEYJ123V	Cr	12KΩ 1/10W 5%				
R188	ERJ6GEYJ103V	Cr	10kΩ 1/10W 5%				
R209	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%				
R210	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%				
R211	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%				
R212	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%				
R214	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%				
R215	ERJ6GEYJ101V	Cr	100Ω 1/10W 5%				
R216	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%				
R219	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%				
R220	ERJ6GEYJ201V	Cr	200Ω 1/10W 5%				

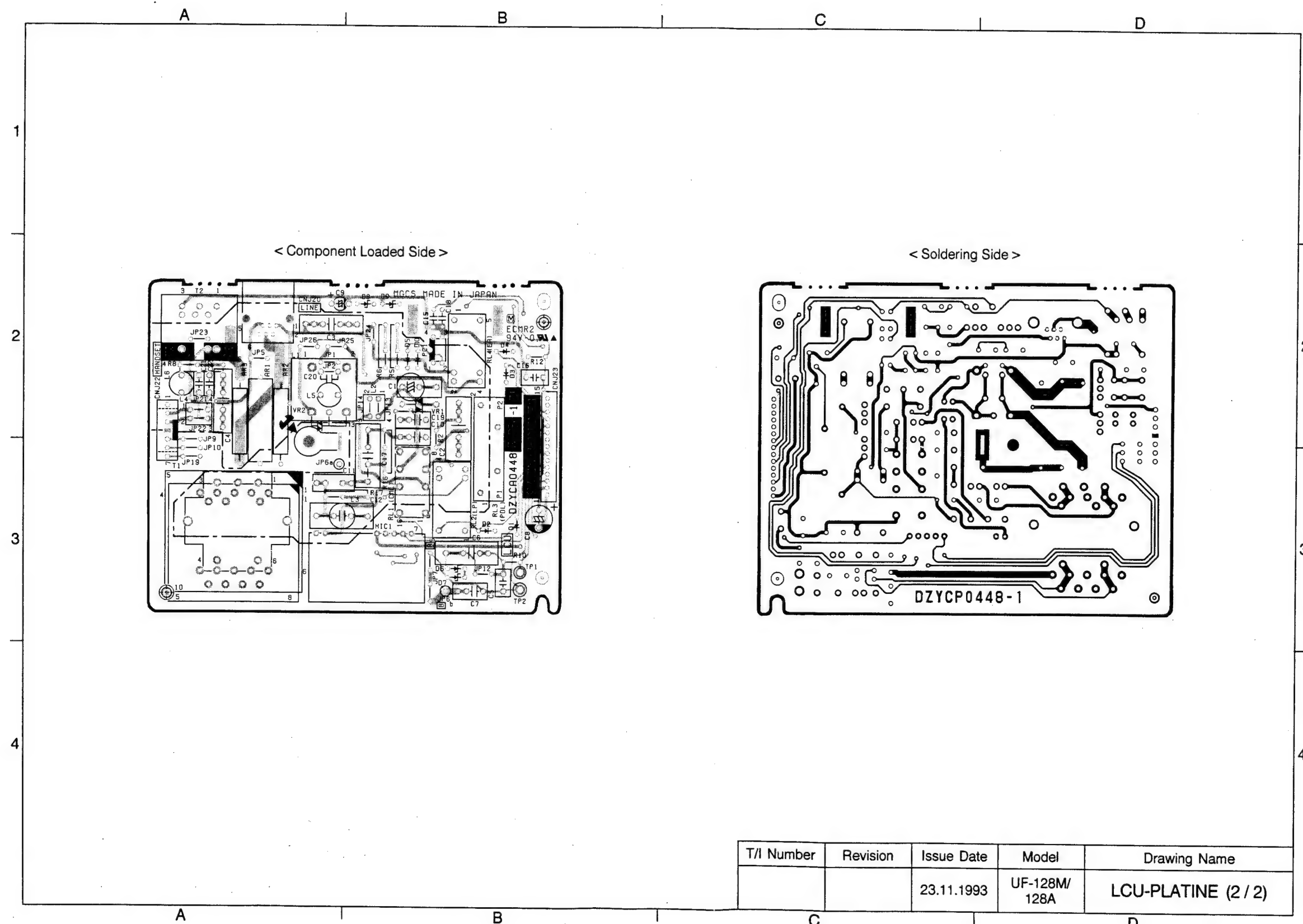
Country Code		ZA		Austria	
		ZG		Germany	
Ref. No.	Part No.	Part Name	Description	DZYC0476**	
				ZA	ZG
C18	ECQB1H223JF	PFc	0.022uF 50V 5%		1
C19	ECQB1H223JF	PFc	0.022uF 50V 5%		1
C20	ECQB1H473JF	PFc	0.047u 50V 5%		1
C21	ECUV1H104ZFX	Cc	0.1u 50V		1
C22	ECUV1H104ZFX	Cc	0.1u 50V		1
C25	ECQB1H223JF	PFc	0.022uF 50V 5%		1
C26	ECQB1H223JF	PFc	0.022uF 50V 5%		1
IC7	uPC1458G2-E1	IC, Operational Amplifier		1	
J1	ERD6GEY0R00V	Cr	0Ω 1/10W 5%	1	
R44	ERJ6GEYJ333V	Cr	33kΩ 1/10W 5%		1
R44	ERJ6GEYJ683V	Cr	68kΩ 1/10W 5%	1	
R45	ERJ6GEYJ333V	Cr	33kΩ 1/10W 5%		1
R45	ERJ6GEYJ683V	Cr	68kΩ 1/10W 5%	1	
R55	ERJ6GEYJ822V	Cr	8.2kΩ 1/10W 5%		1
R56	ERJ6GEYJ752V	Cr	7.5kΩ 1/10W 5%		1
R57	ERJ6GEYJ753V	Cr	75kΩ 1/10W 5%		1
R58	ERJ6GEYJ183V	Cr	18kΩ 1/10W 5%		1
R59	ERJ6GEYJ363V	Cr	36kΩ 1/10W 5%		1



TO SC PCB
• DZBAT8704

* : NOT MOUNTED
* : This parts may vary depending
on the country. (Refer TABLE1)

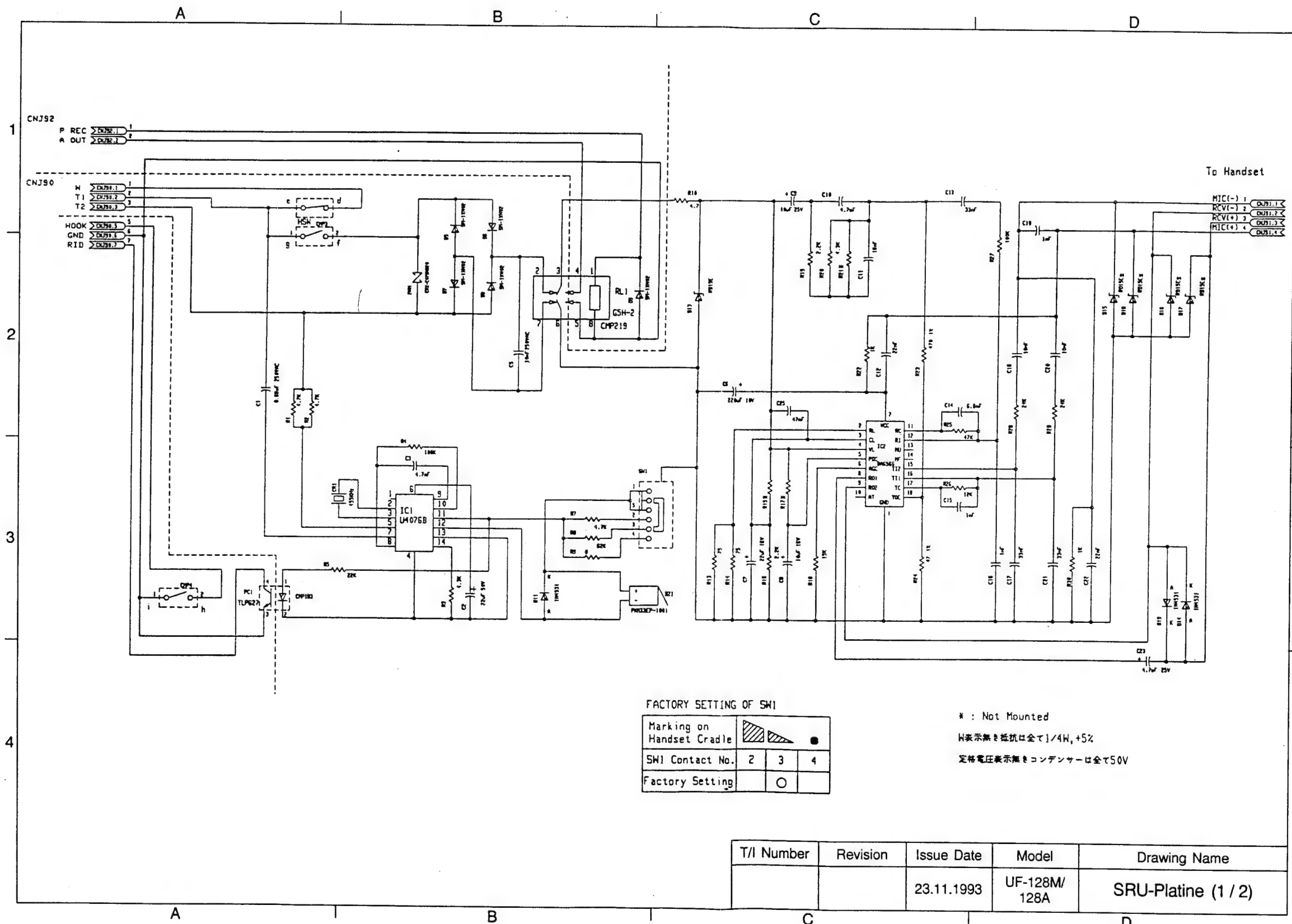
T/I Number	Revision	Issue Date	Model	Drawing Name
		23.11.1993	UF-128M/ 128A	LCU-PLATINE (1/2)



7.2 LCU-Platine (DZYCA0448) (1 / 1)

Ref. No.	Part No.	Part Name	Description
AR1	DSA401MSCF25	Surge Absorber	
AR2	DSA401MSCF25	Surge Absorber	
CNJ20	TM5RE2-64 or TM5RE3-64 or No623-04-635	Modular Jack	
CNJ23	B13BPHKS	Connector	
C7	Not Mounted		
C8	Not Mounted		
C9	Not Mounted		
C15	Not Mounted		
C16	Not Mounted		
C18	Not Mounted		
D1	SM1XN02 or 1SR139-200	Diode	
D2	SM1XN02 or 1SR139-200	Diode	
D3	SM1XN02 or 1SR139-200	Diode	
D4	SM1XN02 or 1SR139-200	Diode	
D6	RD6ES or MTZJ62B	Diode,Zener	
D7	RD6ES or MTZJ62B	Diode,Zener	
FG	TW4BS2K	Strap,Earth Lug	
HIC1	THS52	Current Detector	
JP6-B	Not Mounted		
JP7-A	Jumper	Jumper Wire	
JP7-B	Not Mounted		
JP9	Jumper	Jumper Wire	
JP10	Jumper	Jumper Wire	
JP13	Not Mounted		
JP14	Not Mounted		
JP26	Jumper	Jumper Wire	
L2	STB0180W	Choke Coil	
L4	SBT0180W	Choke Coil	
R2	ERDS2TJ221	CFr	220Ω 1/4W 5%
R6	Not Mounted		
R10	ERDS2TOT	CFr	0Ω 1/4W
RL1	DSB2M2DDC24V or MR622-24S2R	Relay	
RL2	AJK8342 or G5B1HDC24V	Relay	
RL3	UPM15024YHL	Relay	
RL4	AJK8342 or G5B1HDC24V	Relay	
TP1	Not Mounted		
TP2	Not Mounted		
VR2	Not Mounted		

Country Code				A1	Austria
				G1	Germany
Ref. No.	Part No.	Part Name	Description	DZYCA0448**	
				A1	G1
C1	ECEA1CN470S	Ec	47μF NP 16V 20%		1
C1	ECQB1H334JZ or ECQV1H334JZ	PFc	0.33μF 50V	1	
C2	ECQE2474KF	PFc	0.47μF 250V		1
C2	ECQE2105KF	PFc	1μF 250V	1	
C3	ECQE2224KF	PFc	0.22μF 250V	1	
C4	ECQE2473KF	PFc	0.047μF 250V	1	
C5	ECQB1H823JF	PFc	0.082μF 50V		1
C5	ECQB1H473JF	PFc	0.047μF 50V	1	
C6	ECQE1155KF	PFc	1.5μF 100V		1
C11	ECQE4393KF	PFc	0.039μF 400V		1
C12	ECQE2105KF	PFr	1μF 250V		1
C17	ECQE2105KF	PFr	1μF 250V		1
C21	ECQB1H153JF	PFr	0.015μF 50V		1
C21	ECQB1H473JF	PFc	0.047μF 50V	1	
C22	ECQB1H153JF	PFr	0.015μF 50V		1
C22	ECQB1H183JF	PFc	0.018μF 50V	1	
D5	SM1XN02 or 1SR139-200	Diode		1	
D8	RD36ES or MTZJ36B	Diode,Zener		1	
D9	RD36ES or MTZJ36B	Diode,Zener		1	
D10	Jumper	Jumper Wire		1	
CNJ22	DF1B7P-25DSA	Connector			1
CNJ22	DF1B5P-25DSA	Connector		1	
JP1	SBT0260TF	Coil			1
JP1	Jumper	Jumper Wire		1	
JP2	SBT0260TF	Coil			1
JP2	Jumper	Jumper Wire		1	
JP12	Jumper	Jumper Wire		1	
JP19	Jumper	Jumper Wire			1
L6	FL7H332J	Inductor			1
L6	FL7H272J	Inductor		1	
PC1	PC817B or PS2501-1(W)	Photocoupler		1	
R5	ERG1SJ273P	MOFr	27KΩ 1W	1	
R8	ERDS2TJ473	Cr	47KΩ 1/4W 5%	1	
R12	ERDS2TJ103	Cr	10KΩ 1/4W 5%		1
R16	ERG1SJ151P	MOFr	150Ω 1W 5%		1
R16	Jumper	Jumper Wire		1	
R17	ERG1SJ151P	MOFr	150Ω 1W 5%		1
R17	Jumper	Jumper Wire		1	
T1	No91226	Transformer			1
T1	No62509A	Transformer		1	
T2	ETA19Z103AY	Transformer		1	
VR1	VR61SS or VR61B or VR61BS	Varistor			1

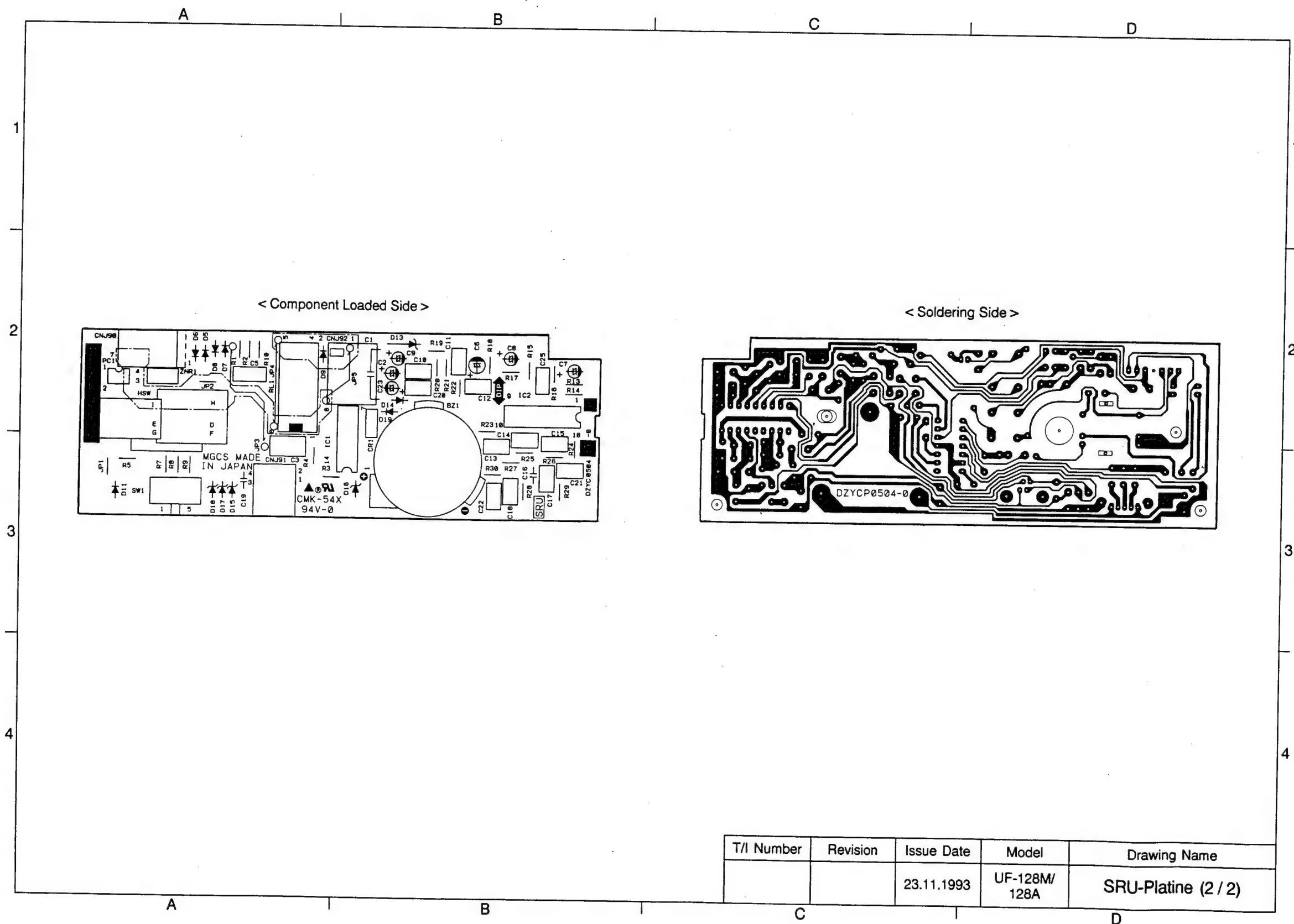


FACTORY SETTING OF SW1

Marking on Handset Cradle			
SW1 Contact No.	2	3	4
Factory Setting		○	

* : Not Mounted
 W表示無き抵抗は全て1/4W,+5%
 定格電圧表示無きコンデンサーは全て50V

T/I Number	Revision	Issue Date	Model	Drawing Name
		23.11.1993	UF-128M/128A	SRU-Platine (1 / 2)



7.3 SRU-Platine (DZYC0504) (1 / 1)

Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
BZ1	PKM33EP-1001	Ceramic Ringer		JP3	Jumper	Jumper Wire	
C2	ECEA1HKA220B	Ec	22µF 50VDC	JP4	Jumper	Jumper Wire	
C3	ECQB1H472KF	PFc	4700pF 50VDC	JP5	Jumper	Jumper Wire	
C5	ECQ-E2103KF	PFc	0.01µF 250VDC	R4	ERDS2TJ104	CFr	100KΩ 1/4W
C6	ECEA1AKS221E	Ec	220µF 10VDC	R7	ERDS2TJ472	CFr	4.7KΩ 1/4W
C7	ECEA1CKA220B	Ec	22µF 16VDC	R8	ERDS2TJ623	CFr	62KΩ 1/4W
C8	ECEA1CKA100B	Ec	10µF 16VDC	R9	Not Mounted		
C9	ECEA1EKA100B	Ec	10µF 25VDC	R10	ERDS2TJ4R7	CFr	4.7Ω 1/4W
C11	ECQB1H183JF	PFc	0.018µF 50VDC	R13	ERDS2TJ750	CFr	75Ω 1/4W
C12	ECQB1H223JF	PFc	0.022µF 50VDC	R14	ERDS2TJ750	CFr	75Ω 1/4W
C13	ECQB1H333JF	PFc	0.033µF 50VDC	R17	Not Mounted		
C15	ECQB1H102JF	PFc	1000pF 50VDC	R21	Not Mounted		
C16	ECBT1H102KB	Cc	1000pF 50VDC	R22	ERDS2TJ102	CFr	1.0KΩ 1/4W
C17	ECQB1H333JF	PFc	0.033µF 50VDC	R23	EROS2TKF4700	MFr	470Ω 1/4W
C19	ECBT1H102KB	Cc	1000pF 50VDC	R24	EROS2TKF47R0	MFr	47Ω 1/4W
C21	ECQB1H333JF	PFc	0.033µF 50VDC	R25	ERDS2TJ473	CFr	47KΩ 1/4W
C22	ECQB1H223JF	PFc	0.022µF 50VDC	R26	ERDS2TJ123	CFr	12KΩ 1/4W
C23	ECEA1EKA4R7B	Ec	4.7µF 25VDC	R30	ERDS2TJ102	CFr	1.0KΩ 1/4W
CNJ91	TM5RE3-44(50)	Modular Jack		RL1	G5H-2	Relay	
CNJ92	S2B-PH-K-S	Connector		SW1	SSSF113-L9	Slide Switch	
D5	SM-1XN02 or 1SR139-200	Diode		ZNR1	NV082D07 or ERZ-C07DK820 or AVR-G07D820K	Surge Absorber	
D6	SM-1XN02 or 1SR139-200	Diode					
D7	SM-1XN02 or 1SR139-200	Diode					
D8	SM-1XN02 or 1SR139-200	Diode					
D9	SM-1XN02 or 1SR139-200	Diode					
D11	1N4531 or MA178	Diode					
D13	MTZ15A or RD15ES or RD15EB1	Zener Diode					
D14	1N4531 or MA178	Diode					
D15	MTZ15A or RD15ES or RD15EB1	Zener Diode					
D16	MTZ15A or RD15ES or RD15EB1	Zener Diode					
D17	MTZ15A or RD15ES or RD15EB1	Zener Diode					
D18	MTZ15A or RD15ES or RD15EB1	Zener Diode					
D19	1N4531 or MA178	Diode					
HSW	DZZSP08023	Hook Switch					
IC1	U4076B	Ringer IC					
IC2	BA6566	Speech IC					
JP2	Jumper	Jumper Wire					

Country				A1	Austria
				G1	Germany
Ref. No.	Part No.	Part Name	Description	DZYC0504**	
				A1	G1
C1	ECQE2684KF	PFc	0.68µF 250V		1
C1	ECQE2824KF	PFc	0.82µF 250V	1	
C10	ECQB1H472JF	PFc	4700pF 50VDC		1
C10	ECQB1H152JF	PFc	1500pF 50VDC	1	
C14	ECQB1H682JF	PFc	6800pF 50VDC		1
C14	ECQB1H332JF	PFc	3300pF 50VDC	1	
C18	ECQB1H103JF	PFc	0.01µF 50VDC		1
C18	ECQB1H153JF	PFc	0.015µF 50VDC	1	
C20	ECQB1H103JF	PFc	0.01µF 50VDC		1
C20	ECQB1H153JF	PFc	0.015µF 50VDC	1	
C24	ECQB1H101KB	Cc	100pF 50VDC	1	
C25	ECQB1H473JF	PFc	0.047µF 50VDC		1
CNJ90	DF1B-7P-2.5DS	Connector			1
CNJ90	DF1B-5P-2.5DS	Connector		1	
CR1	CSB455E25	Oscillator, Crystal	455Hz		1
CR1	CSB520P25	Oscillator, Crystal	520Hz	1	
JP1	Jumper	Jumper Wire			1
PC1	PC852 or PC853 or PS2532-1 or PS2533-1 or TLP627				1
R1	ERDS2TJ472	CFr	4.7KΩ 1/4W		1
R1	ERDS2TJ362	CFr	3.6KΩ 1/4W	1	
R2	ERDS2TJ472	CFr	4.7KΩ 1/4W		1
R2	ERDS2TJ362	CFr	3.6KΩ 1/4W	1	
R3	ERDS2TJ432	CFr	4.3KΩ 1/4W		1
R3	ERDS2TJ622	CFr	6.2KΩ 1/4W	1	
R5	ERDS2TJ223	CFr	22KΩ 1/4W		1
R15	ERDS2TJ362	CFr	3.6KΩ 1/4W		1
R15	ERDS2TJ152	CFr	1.5KΩ 1/4W	1	
R16	ERDS2TJ132	CFr	1.3KΩ 1/4W		1
R16	ERDS2TJ222	CFr	2.2KΩ 1/4W	1	
R18	ERDS2TJ153	CFr	15KΩ 1/4W		1
R18	ERDS2TJ152	CFr	1.5KΩ 1/4W	1	
R19	ERDS2TJ222	CFr	2.2KΩ 1/4W		1
R19	ERDS2TJ202	CFr	2.0KΩ 1/4W	1	
R20	ERDS2TJ432	CFr	4.3KΩ 1/4W		1
R20	ERDS2TJ242	CFr	2.4KΩ 1/4W	1	
R27	ERDS2TJ104	CFr	100KΩ 1/4W		1
R27	ERDS2TJ244	CFr	240KΩ 1/4W	1	
R28	ERDS2TJ243	CFr	24KΩ 1/4W		1
R28	ERDS2TJ223	CFr	22KΩ 1/4W	1	
R29	ERDS2TJ243	CFr	24KΩ 1/4W		1
R29	ERDS2TJ223	CFr	22KΩ 1/4W	1	

ORDER NO. MGCS920501C0
(Standard Version)

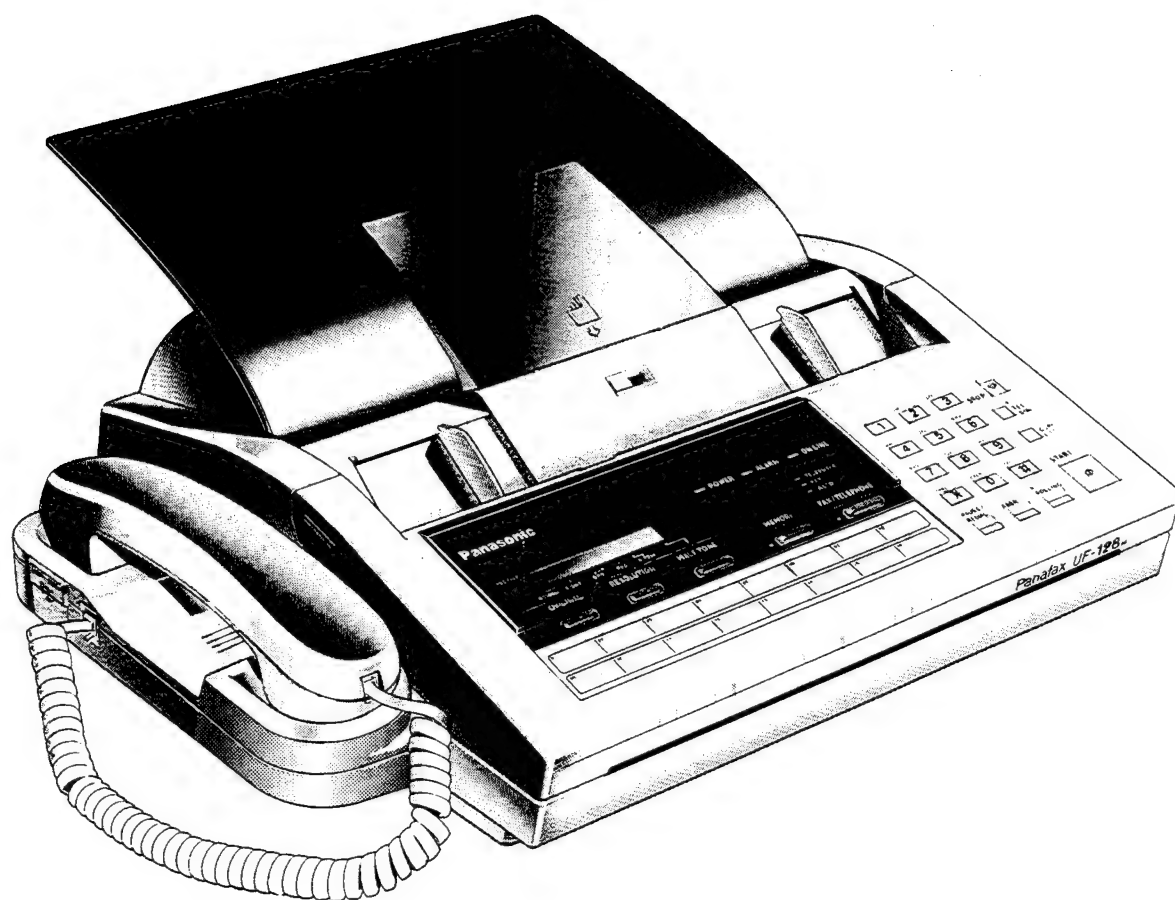
Service Manual

Facsimile

UF-128M



PANA-08401



Panasonic®

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1.1 GENERAL DESCRIPTION

These specifications cover the functional performance and facility requirements of the high-speed facsimile transceiver which is capable of transmitting and receiving documents over the Public Switched Telephone Network [PSTN] (or equivalent) .

The unit is designed to meet the CCITT Group 3 Recommendations.

1.2 FUNCTIONS AND FEATURES

(1) Scanning

An A4 size document can be scanned and transmitted.

(2) Automatic Dialing Function

Up to 70 stations (Up to 69 stations for U.K. version) can be easily dialed using the One-Touch Dialing or Abbreviated Dialing Functions. Other stations can be dialed directly on the keypad by entering the complete telephone number.

(3) Automatic Fallback Function

An appropriate transmission speed of 9600, 7200, 4800 or 2400 bps in Group 3 is automatically selected according to the telephone line condition.

(4) Error Correction Mode (ECM)

The Error Correction Mode, which conforms to CCITT Recommendations, allows error-free data transmission.

(5) White Line Skip Function (MWS)

The White Line Skip Function achieves faster transmission by skipping the white lines in the document.

(6) Short Protocol

Short Protocol reduces overall transmission time by shortening the handshake signals in Phase-B and Phase-D.

(7) Memory Transmission

The contents of a document can be stored in the document memory and then transmitted.

In case of a line failure, the unit will retransmit only the remaining pages. Operator's attendance until transmission ends is not necessary.

Note : Depending on the contents of the document, the number of total pages that can be stored may vary.

(8) Multi-Station Transmission

A document can be sequentially transmitted to multiple destinations in one simple operation using the document memory.

(9) Polling (Rx only)

The receiving station polls the waiting documents from a remote unattended station.

To prevent unauthorized polling, a 4-digit password will be checked at each end.

It is also possible to set a temporary polling password for one polling transaction.

(10) Substitute Reception

The contents of a document will be received into the document memory if the recording paper runs out. The stored contents will be printed automatically when a new roll of recording paper is installed.

(11) Automatic Background Control [ABC] and Original Contrast Selection

The ABC Function produces the best copy quality contrast automatically. Two grades of contrast (NORMAL and LIGHT) are selectable according to the contrast of the original document.

(12) Super Fine Resolution

Super Fine Resolution enables the reproduction of documents with high quality. The resolution is twice as precise as Fine Resolution.

(13) Halftone

This function ensures high quality reproduction of grey-shaded or photographic documents. Resolution will be set at Fine automatically.

(14) Voice Contact Function

Voice Contact is available after transmission or reception by pressing the TEL button while communication is in progress. If the station does not respond to the voice contact request, a call back message, which says that voice contact was requested, will be printed at the called station.

(15) Multiple Copy Function

The Copy Function can be used to make copies. Multiple copies can be made using the document memory.

(16) Header Print

The Header Print shows an alphanumeric logo (up to 25-characters), communication date, time, page number, etc., which are printed at the top of the recorded copy.

(17) Verification Stamp

The Verification Stamp is automatically stamped on the original document when the document is transmitted successfully.

The ⊗ mark appears at the bottom of the front side of the page.

(18) Journal Print

The Journal Print provides transaction information such as pages transmitted or received, start date and time, communication result, identification etc. It is automatically printed every 32 transactions, or with key operation, a Journal of the last 32 transactions is printed.

(19) Individual Transmission Journal

After every transmission, an Individual Transmission Journal which shows date, time, number of transmitted documents, identification, transmission result, etc., is automatically printed .

(20) ID Display

16 × 1 LCD Display shows date and time, remote ID number, etc. In case of an error, the LCD Display immediately shows an information code indicating the exact cause of the trouble.

(21) TEL / FAX Automatic Switch

The machine automatically determines whether it is a FAX or Voice call by checking the CNG (Calling tone, CCITT T.30) signal. While checking the CNG signal, the machine sends a "Pseudo Ring Back Tone" back to the calling station. When the machine detects a CNG signal, Fax communication will start, if not, the machine will make an "OPERATOR CALL".

(22) TAM Interface

A TAM (Telephone Answering Machine) can be connected to this machine. If the machine is called , it automatically determines whether the calling signal is from a Fax or is a voice call, the machine then enters Fax or TAM mode accordingly.

If a CNG signal (Calling tone, CCITT T.30) is detected, the machine switches the telephone line to the Fax side and starts Fax communication. If CNG signal is not detected, the machine remains in TAM mode.

(23) Remote Diagnostic Function

The Remote Diagnostic Function enables remote diagnosis of the unit over the PSTN or equivalent. The Host Program will have to be modified to use this function.

(24) Mercury Key (for U.K. version only)

One touch No.16 has been reserved for Mercury Key.

1.3 SPECIFICATIONS

1.3.1 Transmitter

- (1) Document Size (Width x Length)
Max.: 256mm x 1000mm (with operator's assistance)
Min. : 148mm x 73mm
- (2) Document Thickness
Single sheet : 0.06mm to 0.15mm
Multi-sheet : 0.08mm to 0.13mm
(Document set method should be in accordance with the description in the User's Guide.)
- (3) Scan Line Length
A4 : 1728 scan elements along a line length of 215mm \pm 1%
- (4) Effective Scanning Width
A4 size : Group 3 208mm
- (5) Synchronization
Group 3 : Transmission synchronization
- (6) Scanning Method
Horizontal : Flat bed scanning with CCD.
Vertical : Intermittent scanning (G3).
- (7) Resolution (Horizontal x Vertical)
Group 3 SUPER FINE : 8 pels/mm x 15.4 lines/mm
 FINE : 8 pels/mm x 7.7 lines/mm
 STANDARD : 8 pels/mm x 3.85 lines/mm
- (8) Transmission Speed
Group 3 : 9600, 7200, 4800, 2400bps
- (9) Coding Scheme
MH, MR, MWS
- (10) Halftone
16 shades of grey.
- (11) Document Memory Capacity (Using CCITT test document No.1)
Approx. 7 pages in standard resolution.
- (12) Automatic Document Feeder
Built-in, up to 10 sheets.

1.3.2 Receiver

- (1) Recording Paper Size (W x L)
A4 : 210mm x 50mm
- (2) Scan Line Length
A4 : 1728 scan elements along a line length of 215mm \pm 1%
- (3) Effective Recording Width
A4 : Group 3 208mm
- (4) Recording Method
Thermal recording with solid-state thermal recording head.
- (5) Resolution (Horizontal x Vertical)
Group 3 SUPER FINE : 8 pels/mm x 15.4 lines/mm
 FINE : 8 pels/mm x 7.7 lines/mm
 STANDARD : 8 pels/mm x 3.85 lines/mm

1.3.3 Line Control Block

- (1) Communication Facility
PSTN or equivalent.
- (2) Modem
Group 3: QAM, PhM and FSK
(V.29, V.27ter with fallback function and V.21)
- (3) Carrier Frequency
Group 3: 1700Hz (9600/7200bps)
 1800Hz (4800/2400bps)
- (4) Output Level
0 dBm to - 15 dBm, adjustable by 1 dB steps.
- (5) Input Sensitivity
- 5 dBm to - 43 dBm

1.3.4 Automatic Dialing

- (1) Dialing Signal
10PPS /DTMF
- (2) Dialing Method
 - One-Touch Dialing : Up to 16 stations
 - Abbreviated Dialing : Up to 54 stations
 - Direct Dialing : Up to 36 digits including pause key
- (3) Registration Memory Capacity in One-Touch, Abbreviated Dialing
 - Number of stations : Up to 70 stations
 - Telephone number for each station : Up to 36 digits
 - Station name for each station : Up to 15 characters
- (4) Redialing
 - Automatic : Two times with 3 minute intervals.
 - Manual : By pressing the redial button.

1.3.5 Power Supply

- (1) Power Requirement
AC 180~264V, 50/60Hz, Single phase
- (2) Power Consumption
 - Standby : Approx. 9W
 - Transmission : Approx. 24W
 - Reception (10% Black) : Approx. 30W
 - Copy (10% Black) : Approx. 32W
 - Copy (Max.) : Approx. 84W

1.3.6 Environment

(1) Operating Environment

Temperature	: 5 °C to 35 °C
Relative humidity	: 20 to 80% RH
Altitude	: Up to 2400m
Tilt	: Even level

(2) Storage Environment

Temperature	: - 10 °C to 55 °C
Relative humidity	: 5 to 85% RH

Machine should be stored upright.

(3) Transportation Environment (MAX. 100H)

Temperature	: - 30 °C to 60 °C
Relative humidity	: 5 to 85% RH

1.4 CONSTRUCTION

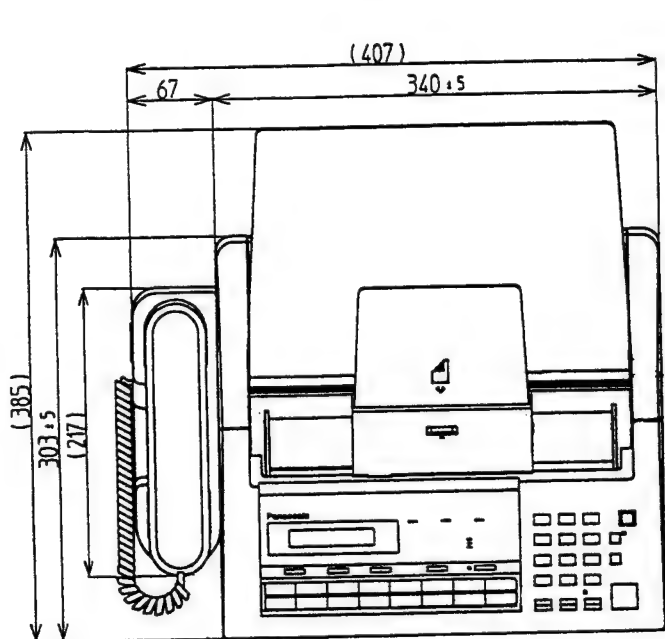
(1) Dimensions

Width	: Approx. 340mm
	(Including Handset Cradle): Approx. 407mm
Depth	: Approx. 303mm
Height	: Approx. 130mm
	(Excluding trays and other projections)

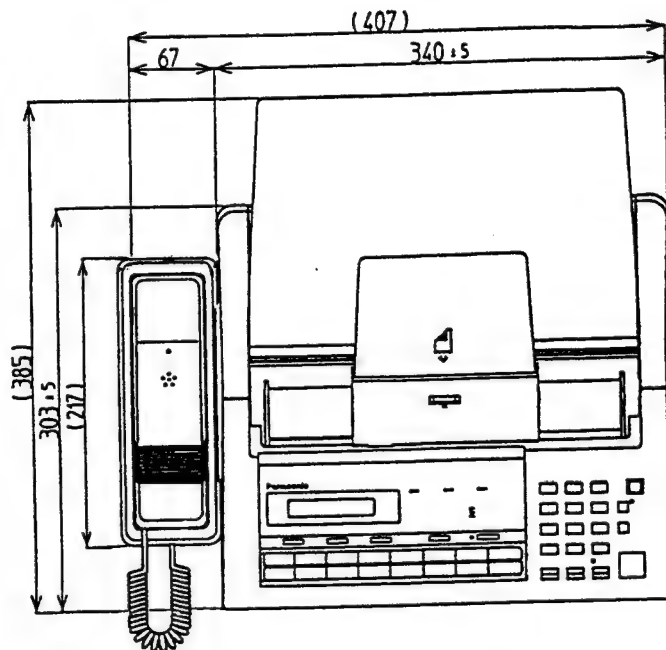
(2) Weight

Approx. 4.6kg
(Excluding trays, recording paper and handset)

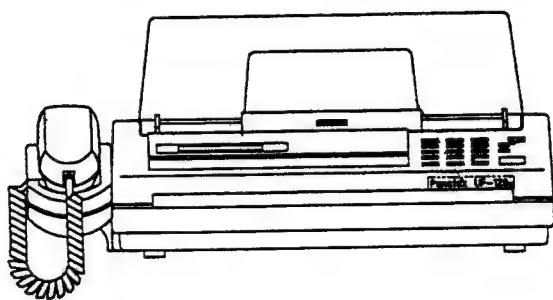
EXTERNAL VIEW



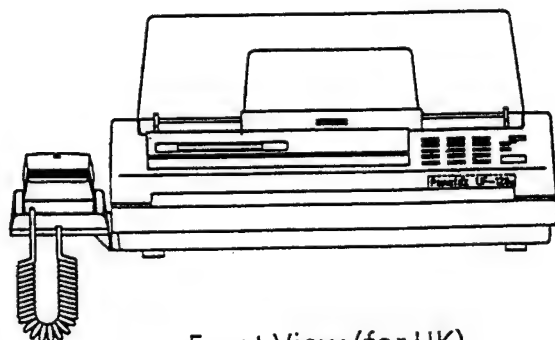
Top View



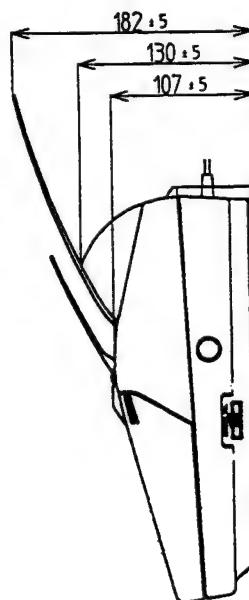
Top View (for UK)



Front View



Front View (for UK)



Right Side View

1.5 Function Table for UF-128M

(×:Yes, –:No)

Item	Description	Remarks
(Main Spec)		
Coding Scheme	MH / MR/ MWS	
Modem Speed (bps)	9600 / 7200 / 4800 / 2400	With Automatic Fallback
XMT Speed (sec.)	Approx. 15	
G2 Compatibility	–	
ECM	×	
White Line Skip	×	
Short Protocol	×	
Document Width	256mm	
Scanning Width	208mm	
Scanning Device	CCD	
ADF (Automatic Document Feeder)	×	Up to 10 sheets
Recording Paper Size (W × L)	210mm × 50m	
Recording Method	Thermal	
Automatic Paper Cutter	×	
Memory Capacity	7 pages (128KB)	CCITT No.1 chart
(Convenience)		
TEL / Fax Automatic Switch	×	
TAM Interface	×	
One-Touch Dialing	16	(Up to 15 keys for U.K. Version)
Abbreviated Dialing	54	
Direct Dialing	×	
Programmable Auto Dialer	–	
Redialing	×	
Memory Transmission	×	Single file
Multi-Station Transmission	×	Single file
Deferred Transmission	–	
Polling	×	Rx only Temporary Password
Turnaround Polling	–	
Multi-Station Polling	–	
Deferred Polling	–	
Deferred Multi-Station Polling	–	
Transmission Reservation	–	
Relay Transmission Request	–	
Confidential Transmission	–	
Confidential Polling	–	
Substitute Reception	×	
Multiple Copy	×	
ID Display	×	16 digits (0~9 and PAUSE)

(x:Yes, -:No)

Item	Description	Remarks
(Copy Quality)		
Super Fine	x	8 pels /mm x 15.4 lines
Halftone	x	16 Levels
(Certainty)		
Header Print	x	
Verification Stamp	x	
Call-Back Message	x	
Total Page Setting	-	
Journal Print	x	
Individual Transmission Journal	x	
(Other)		
Telephone Handset	x*	* Depends on each country
Password Transmission	-	
Password Reception	-	
Fax Access Code	-	
Remote Diagnosis	x	Modify the HOST Program
Leased Line Connection	-	
V24 Interface	-	
Encryption Interface	-	
Dimensions (W x D x H)	340mm x 303mm x 130mm	(Excluding tray and other objecton)
Weight	Approx. 4.6kg	(Excluding trays,recording paper and handset)

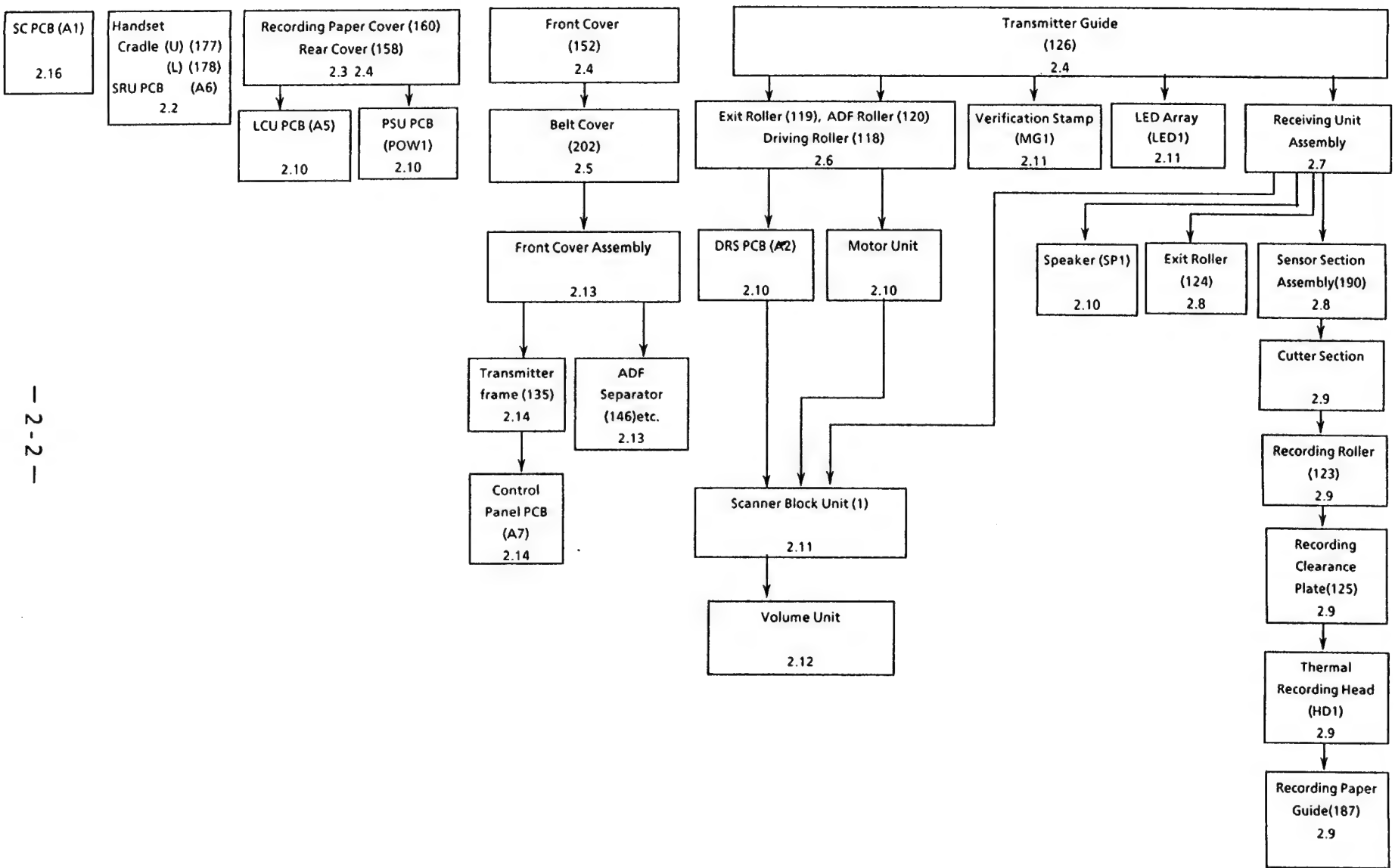
----- **Note** -----

Chapter 2

Disassembly Instructions

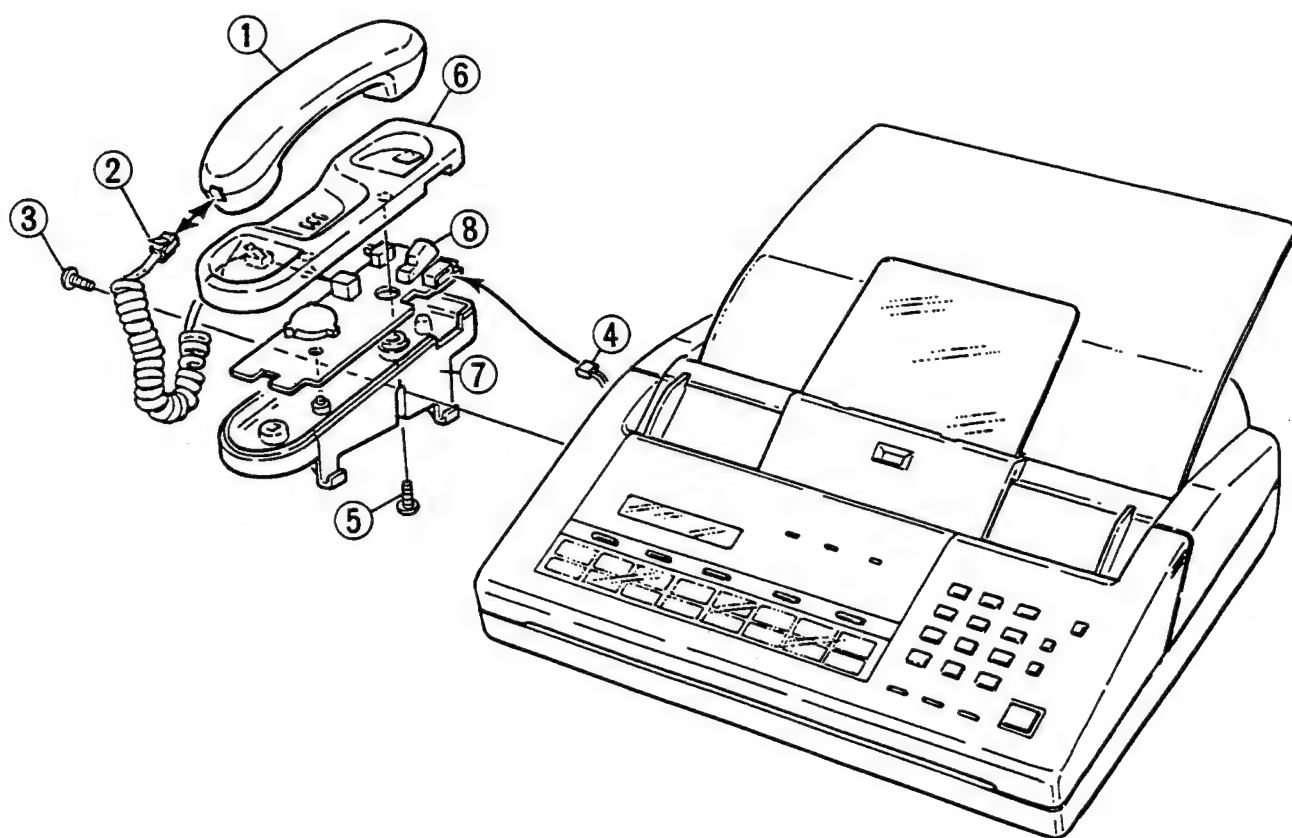
2.1	General Disassembly Flowchart	2 - 2
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2.1 General Disassembly Flowchart



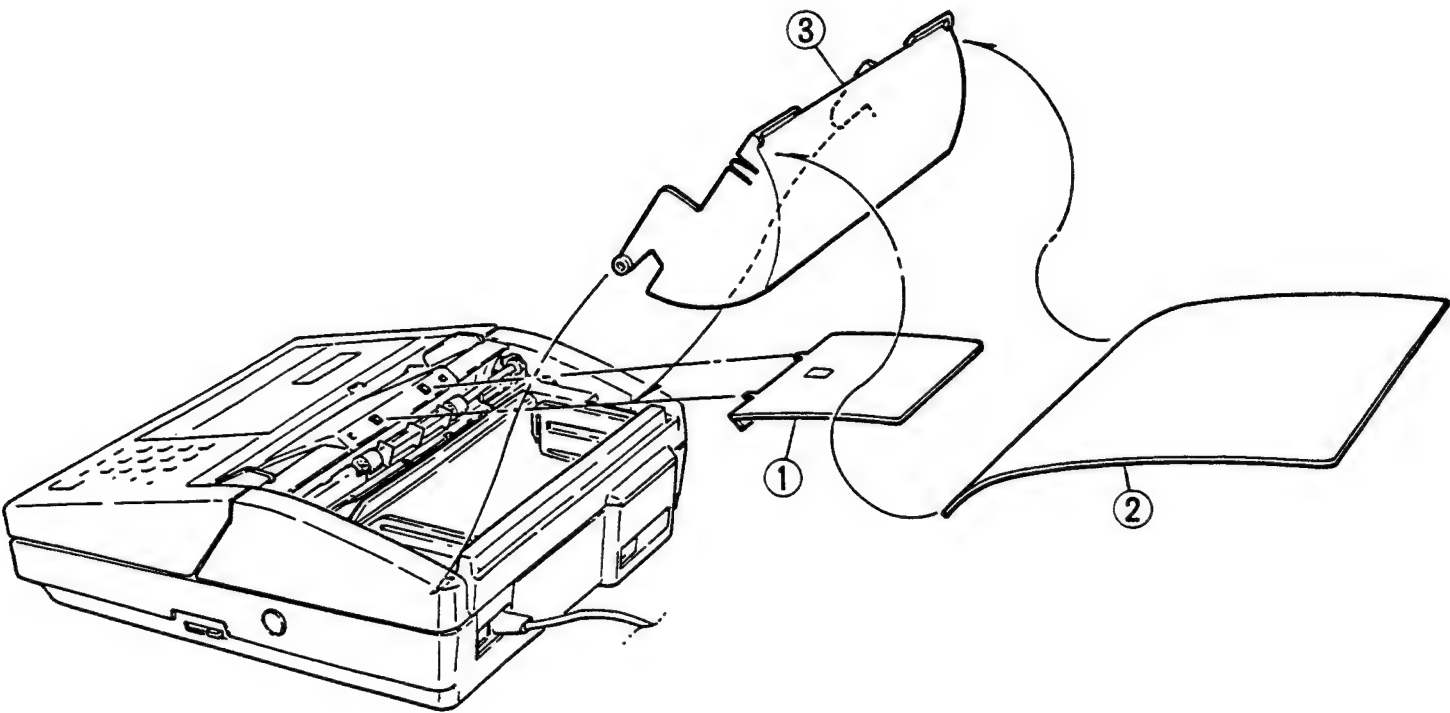
2.2 Handset (A8), Curl Cord (A9), Handset Cradle (Upper) (177) Handset Cradle (Lower) (178), SRU PCB (A6)

Step	Figure	Disassembly Procedure / Parts to be removed
1	①	Remove the Handset (A8)
	②	Remove the Curl Cord (A9)
2	③	Remove One screw (412)
	④	Remove the Connector CNP 90
	⑤	Remove One screw (411)
	⑥	Remove the Handset Cradle (Upper) (177)
	⑦	Remove the Handset Cradle (Lower) (178)
	⑧	Remove the SRU PCB (A6)



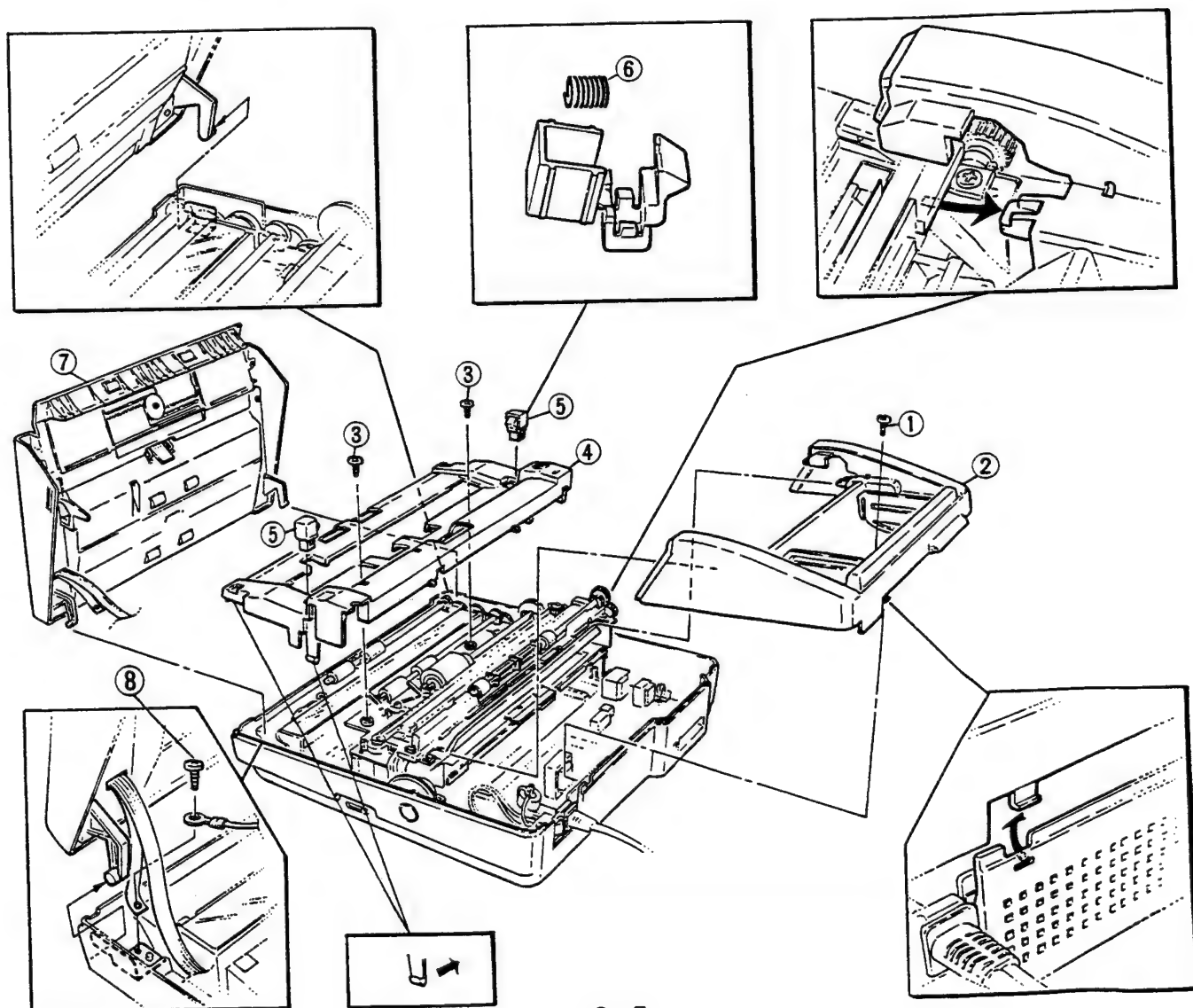
2.3 Document Tray (156), Recording Paper Tray (157),
Recording Paper Cover (160)

Step	Figure	Disassembly Procedure / Parts to be removed
1	①	Document Tray (156)
2	②	Recording Paper Tray (157)
3	③	Recording Paper Cover (160) Push in the sides of the cover where indicated to release the hinges and lift the cover out.



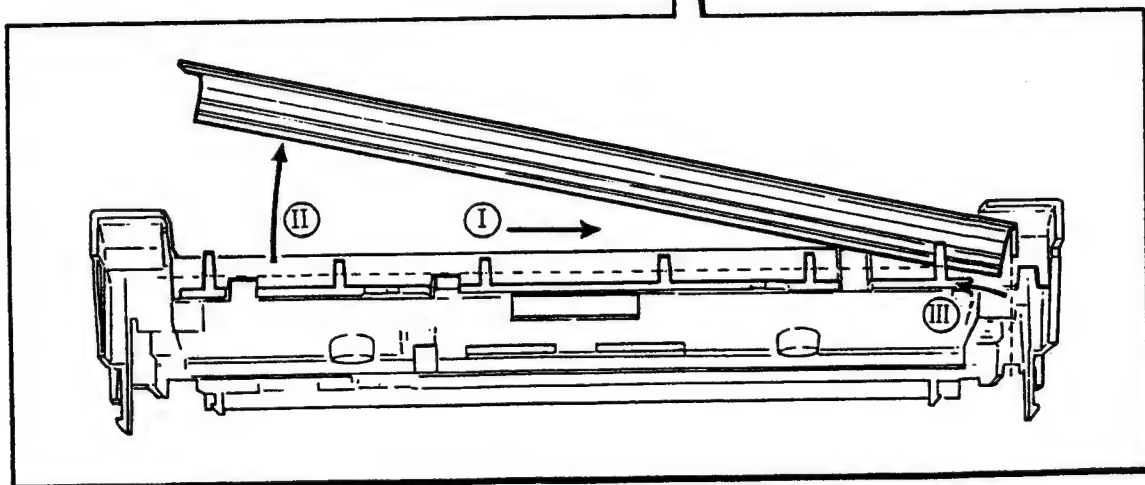
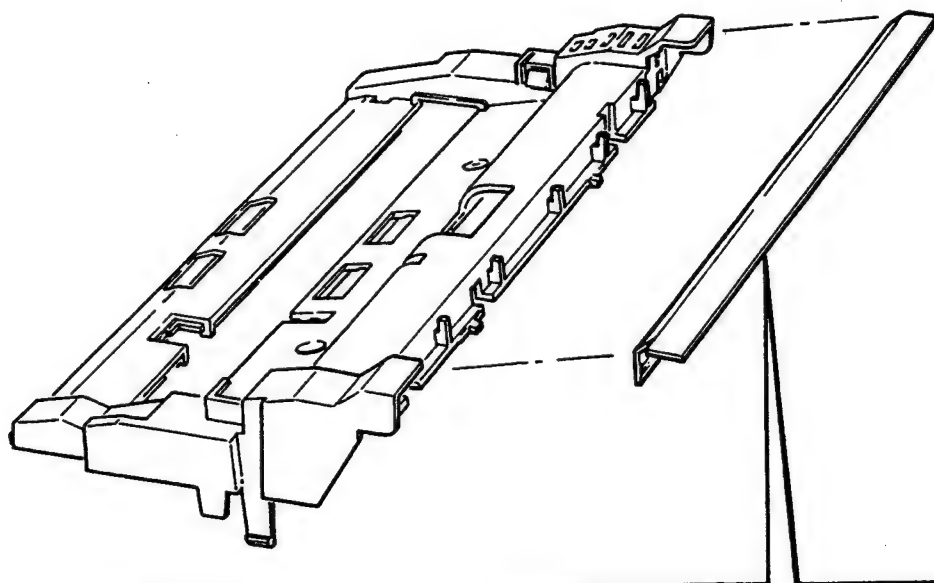
2.4 Rear Cover (158), Transmitter Guide (126), Latch L (102), Latch R (102), Front Cover (152)

Step	Figure	Disassembly Procedure / Parts to be removed
1	①	Remove <i>screws</i> (411)
	②	Remove the <i>Rear Cover</i> (158)
2	③	Remove two <i>screws</i> (411)
	④	Lift the front control panel slightly to ease the removal of the <i>Transmitter Guide</i> (126)
	⑤	Depress the catches on either side of each <i>Latch</i> (102) and then push them out.
	⑥	Remove <i>spring</i> (104)
3		Remove the Front Cover ribbon cable from connector CNJ13. (on SC PCB)
	⑦	Remove <i>Front Cover</i> (152)
	⑧	Remove <i>screw</i> (411) and FG Strap



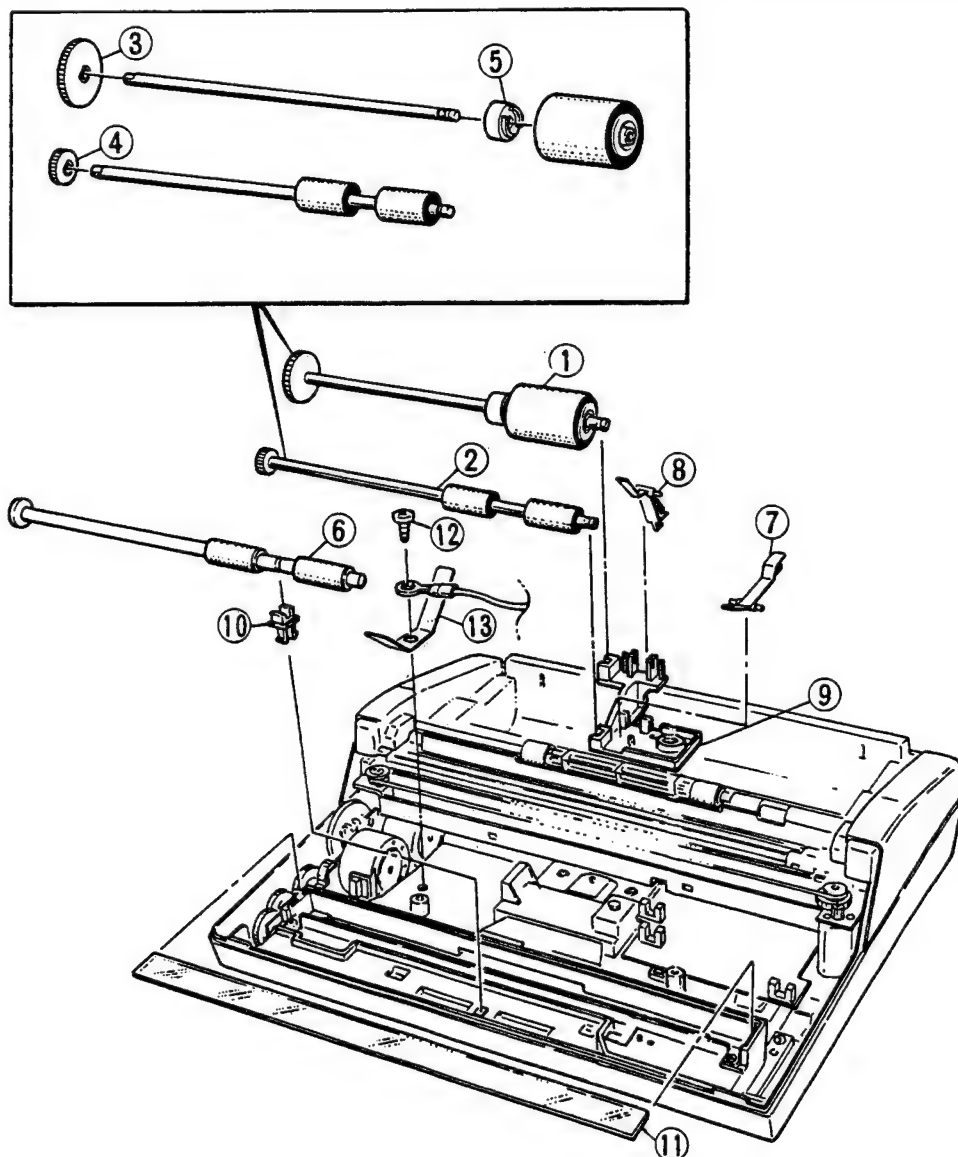
2.5 Belt Cover (202)

Step	Figure	Disassembly Procedure / Parts to be removed
1	①	Slide the Belt Cover (202) to one side.
2		Raise one end of the Belt Cover (202) and then remove it totally.



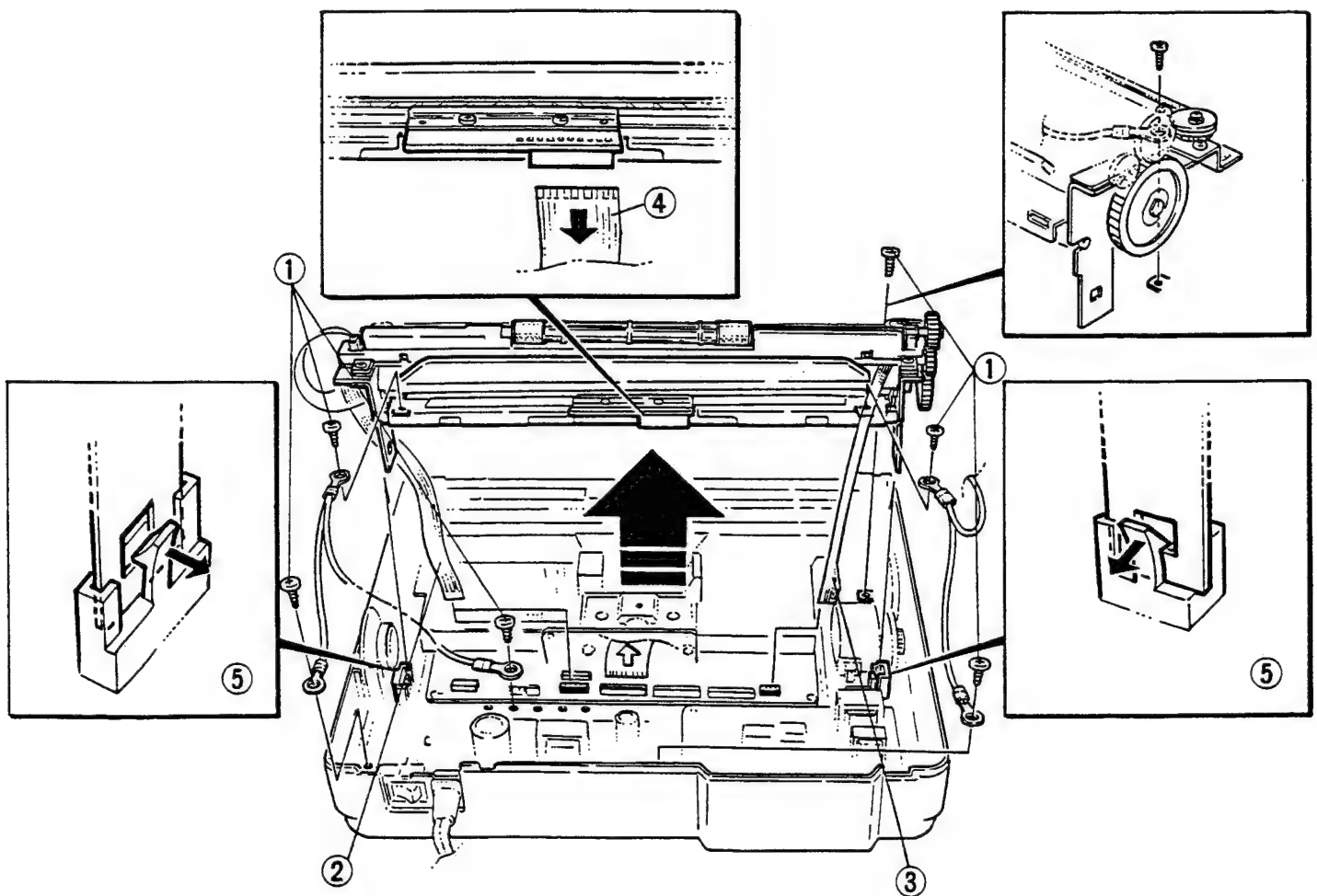
2.6 ADF Roller (120), Driving Roller (118), Exit Roller (119), Actuator (127)(128), Actuator Cradle (106), Scanner Glass (165)

Step	Figure	Disassembly Procedure / Parts to be removed
1		Remove the <i>Transmitter Guide</i> (126)(Refer to Chap. 2.4)
2	①②	Remove the <i>ADF Roller</i> (120)and <i>Driving Roller</i> (118)
3	③④⑤	Remove the <i>Gear</i> (115)(114) and <i>Clutch</i> (179)
4	⑥	Remove the <i>Exit Roller</i> (119)
5	⑦⑧	Remove the <i>Actuator</i> (127) (128)
6	⑨	Remove the <i>Actuator Cradle</i> (106)
7	⑩	Remove the <i>Bearing</i> (105)
8	⑪	Remove the <i>Scanner Glass</i> (165) and put it in a safe place.
9	⑫	Remove <i>screw</i> (411) and FG Strap
10	⑬	Remove the <i>Discharge Spring</i> (205)



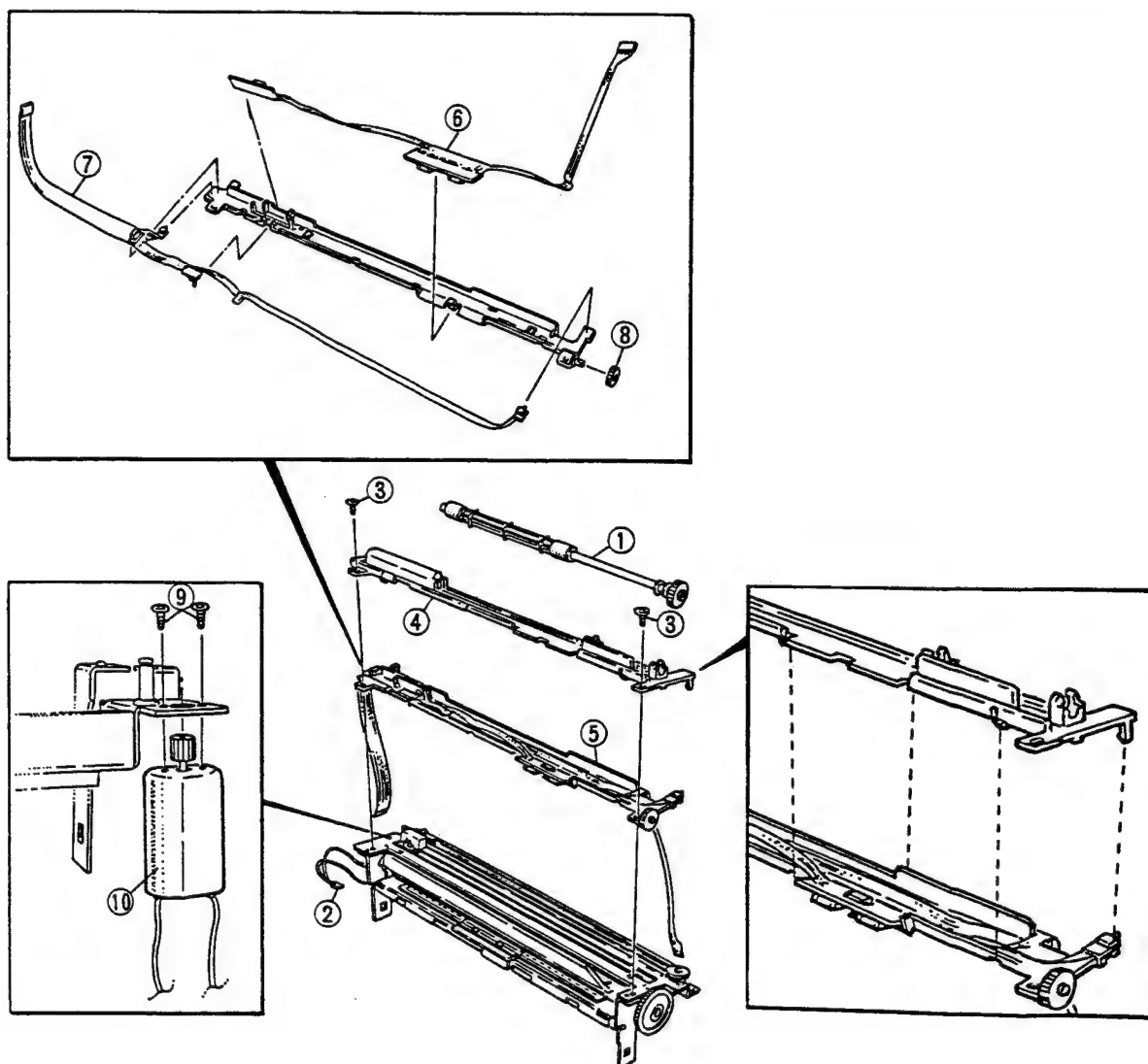
2.7 Receiving Unit Assembly

Step	Figure	Disassembly Procedure / Parts to be removed
1		Remove the <i>Transmitter Guide</i> (126) and <i>Rear Cover</i> (158) (Refer to Chap. 2.4)
	①	Remove <i>screws</i> (402) and FG Straps
2	②	Remove the ribbon cable from connector CNJ15. (on SC PCB)
3	③	Remove the ribbon cable from connector CNJ27. (on SC PCB)
4	④	Remove the ribbon cable from the Thermal Recording Head.
5	⑤	Release the latches at the rear of the metal base to remove the whole Transmission Unit Assembly.



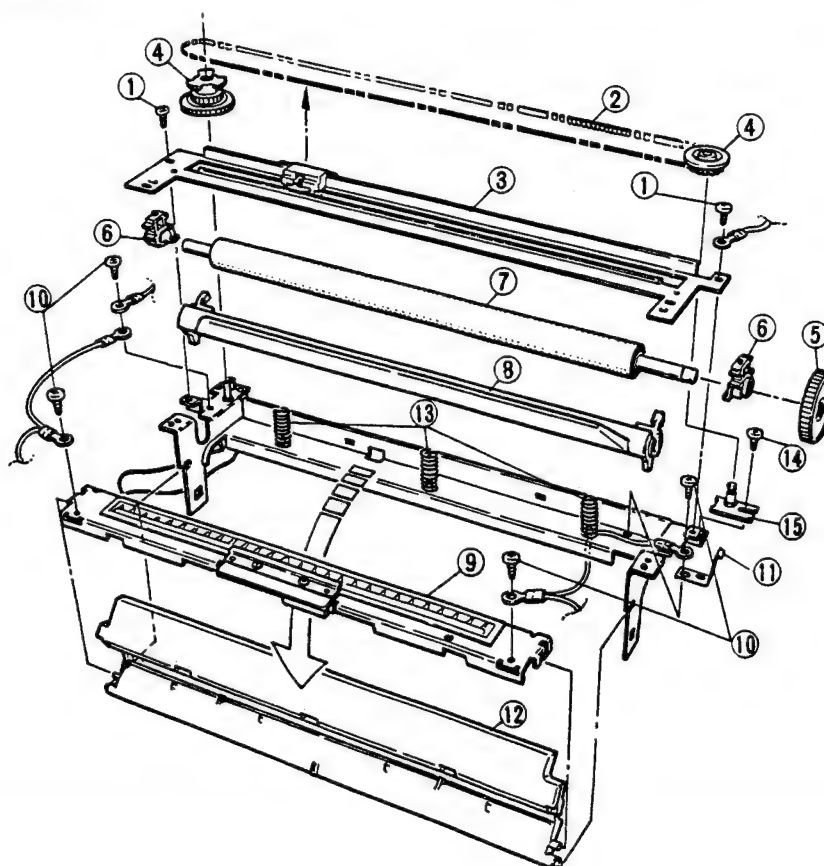
2.8 Exit Roller (124), Paper Sensors (A11), Exit Sensors (A11), Cutter Sensors (A10), Cutter Motor (M3)

Step	Figure	Disassembly Procedure / Parts to be removed
1		Remove the Receiving Unit (Refer to Chap. 2.4,2.6)
2	①	Remove <i>Exit Roller</i> (124)
3	②	Remove <i>Cutter Motor</i> Connector (CNP33)
4	③	Remove two <i>screws</i> (411)
5	④	Remove <i>Exit Cover</i> (191)
6	⑤	Separate sensor section from <i>Exit Guide</i> (190) by releasing the 8 latches.
7	⑥	Remove <i>Paper</i> and <i>Exit Sensors</i> (171),(110)
8	⑦	Remove <i>Cutter Sensors</i> (A10)
9	⑧	Remove <i>Gear</i> (113)
10	⑨	Remove <i>Screws</i> (413)
11	⑩	Remove <i>Cutter Motor</i> (M3)



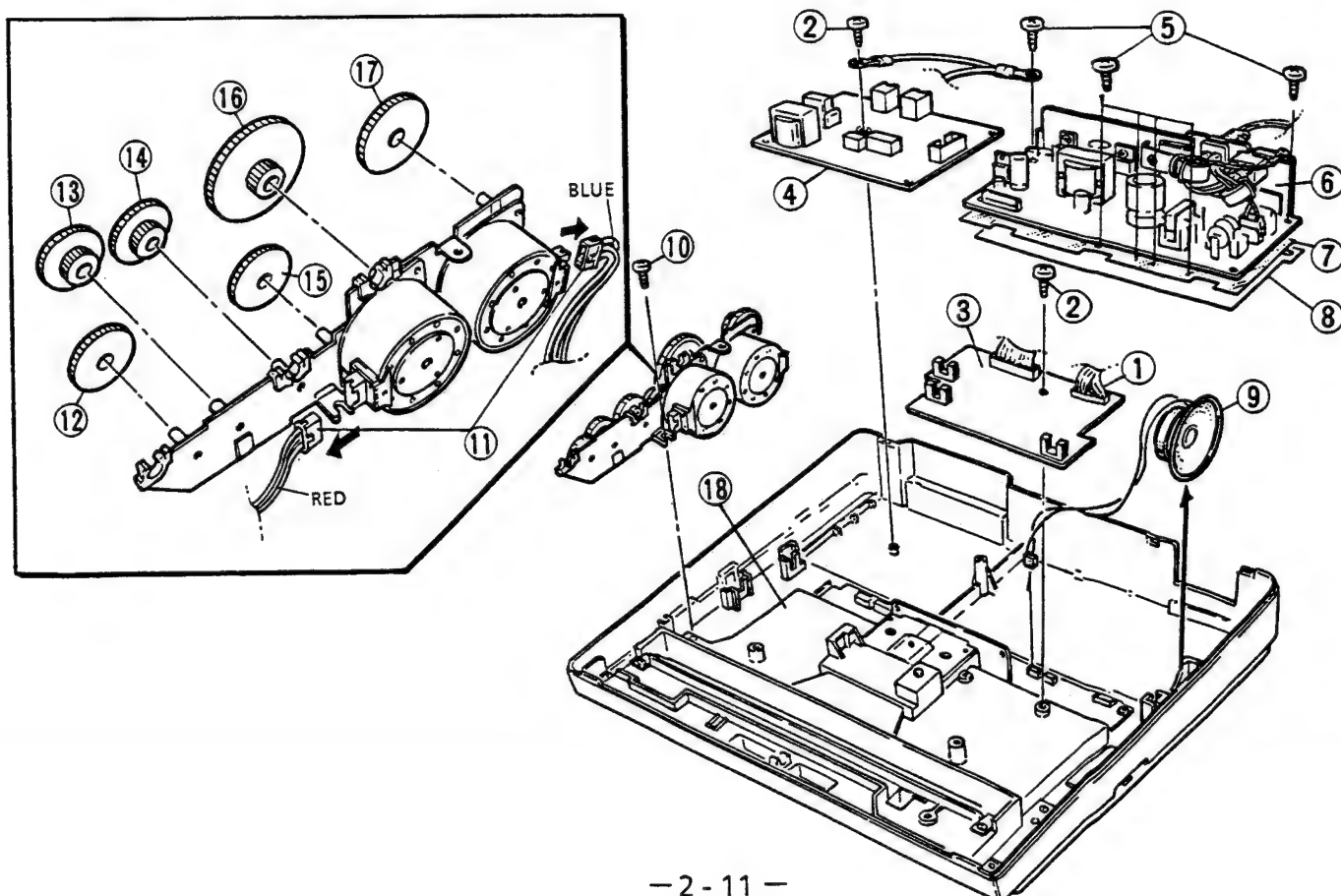
2.9 Timing Belt (520), Feed Gear (189), Feed Pulley (188), Recording Roller (123), Recording Clearance Plate (125), Recording Paper Guide (187), Thermal Recording Head (HD1), Springs (144), Cutter Unit (500)

Step	Figure	Disassembly Procedure / Parts to be removed
1		Remove the Receiving Unit and Sensor Unit (Refer to Chap. 2.6,2.7)
2	(1)	Remove two <i>screws</i> (402) and FG Strap
3	(2)	Remove <i>Timing belt</i> (520) from gear wheels
4	(3)	Remove <i>Cutter Unit</i> (500)
5	(4)	Remove <i>Feed Gear</i> (189) and <i>Feed Pulley</i> (188)
6	(5) (6)	Remove <i>Gear</i> (116) and two <i>Bearings</i> (107)
7	(7)	Remove <i>Recording Roller</i> (123)
8	(8)	Remove <i>Recording Clearance Plate</i> (125), pull the sides of the <i>Recording Paper Guide</i> (187) out slightly, as indicated to ease separation
9	(9)	Remove the <i>Thermal Recording Head</i> (HD1)
10	(10) (11)	Remove <i>screws</i> (402), FG Strap and <i>Tension Spring</i> (194)
11	(12)	Remove the <i>Recording Paper Guide</i> (187) by first lifting the front of the guide to a vertical position before lifting its hinges out of their cradles
12	(13)	Remove the three <i>springs</i> (144) by rotating them slightly
13	(14) (15)	Remove <i>screws</i> (411) and <i>Adjusting Plate</i> (193)



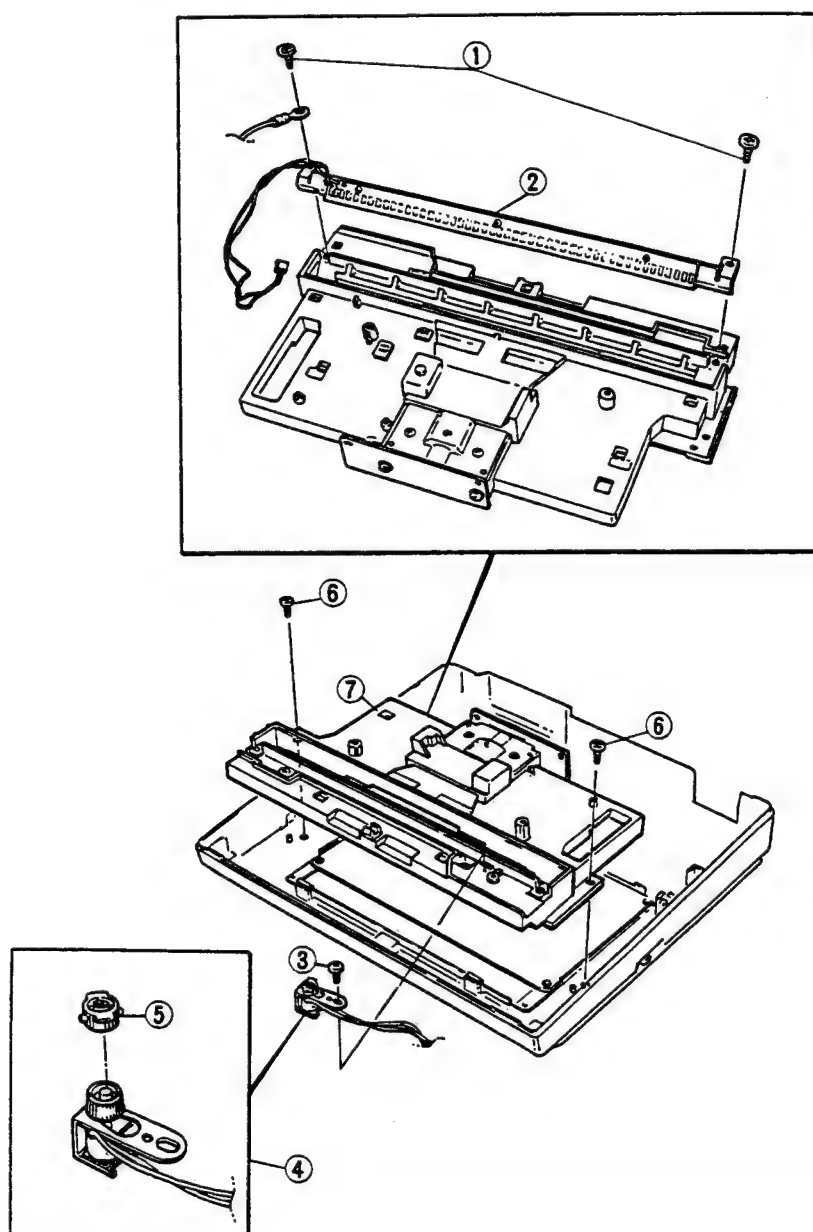
2.10 DRS PCB (A2), LCU PCB (A5), PSU PCB (POW1), Speaker (SP1), Motor Unit

Step	Figure	Disassembly Procedure / Parts to be removed
1		Remove the Transmitter Guide (126), Rear Cover (158) and Receiving Unit (Refer to Chap.2.4,2.6)
2	(1)	Remove ribbon cable from connector CNJ11 (on SC PCB)
3	(2)	Remove screws (402) and FG Strap
4		Disconnect connectors CNJ18, CNJ19 and CNJ25 (on DRS PCB)
5	(3)	Remove DRS PCB (A2)
6	(4)	Remove the LCU Board (A5)
7		Disconnect connector CNJ22 and CNJ23 (on LCU PCB)
8	(5)	Remove six screws (402) and FG Strap
9	(6)(7)(8)	Push the AC Panel in slightly to release the latches at the rear of the board to lift the whole assembly out (PSU PCB (POW1), Insulation Sheet (198) and Sealed Sheet (199))
10		Disconnect connector CNJ10 (on SC PCB)
11	(9)	Lift out the Speaker (SP1)
12		Disconnect connector CNJ28 (on SC PCB)
13	(10)	Remove screw (412)
14	(11)	Remove the Motor connectors
15	(12) ~ (17)	The Motor Gear Assembly can then be disassembled (122) (111) (103) (101) (181) (112)
16	(18)	Lift the Scanner Block Unit (1) (Refer to Chap.2.10)



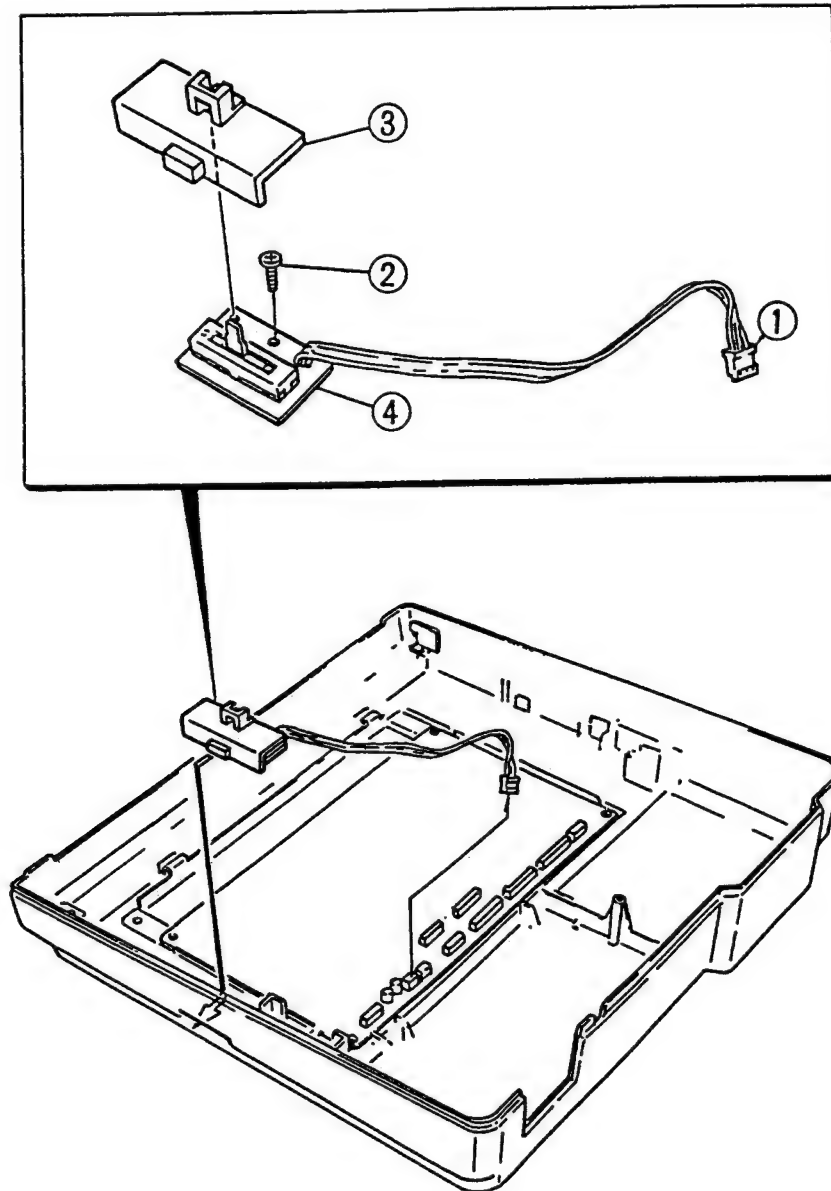
2.11 Scanner Block,Unit(1), LED Array (LED1), Verification Stamp Assembly (MG1)

Step	Figure	Disassembly Procedure / Parts to be removed
1		Remove the Upper Unit (Refer to Chap. 2.4,2.5,2.6,2.9)
2	①	Remove two <i>screws</i> (411) and FG Strap
3	②	Remove LED Array (LED1)
4	③	Remove <i>screw</i> (411)
5	④	Remove Verification Stamp Assembly (MG1)
6	⑤	Remove Verification Stamp Head (524)
7	⑥	Remove two <i>screws</i> (411)
8	⑦	Remove Scanner Block Unit (1)



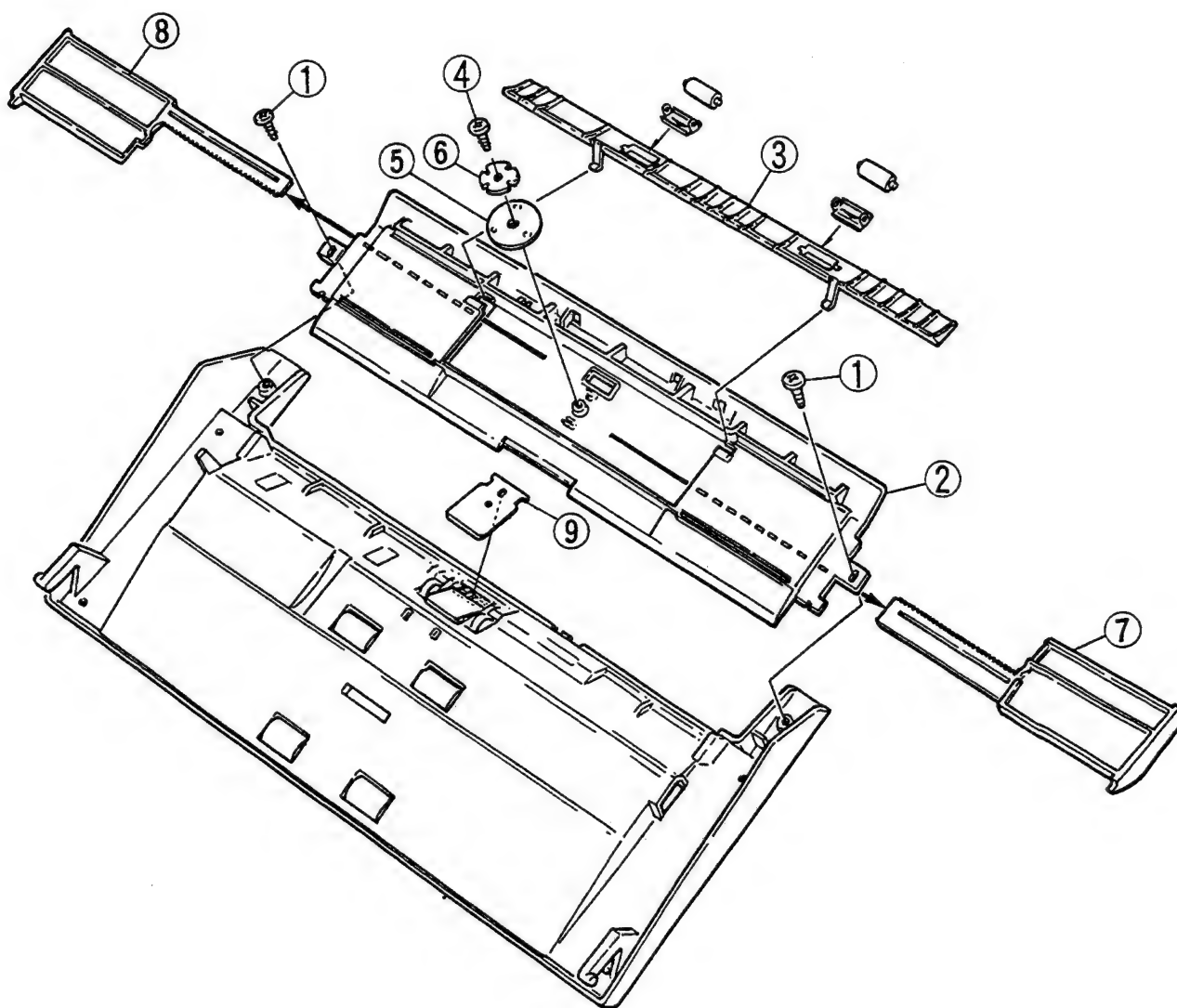
2.12 Volume Slide (161), Volume PCB (A3)

Step	Figure	Disassembly Procedure / Parts to be removed
1		Remove Upper Unit (Refer to Chap. 2.3,2.4,2.5,2.6,2.9,2.10)
2	①	Remove connector CNJ29 (on SC PCB)
3	②	Remove Screw (411)
4	③④	Lift out the Volume Slide (161) and Volume PCB (A3)



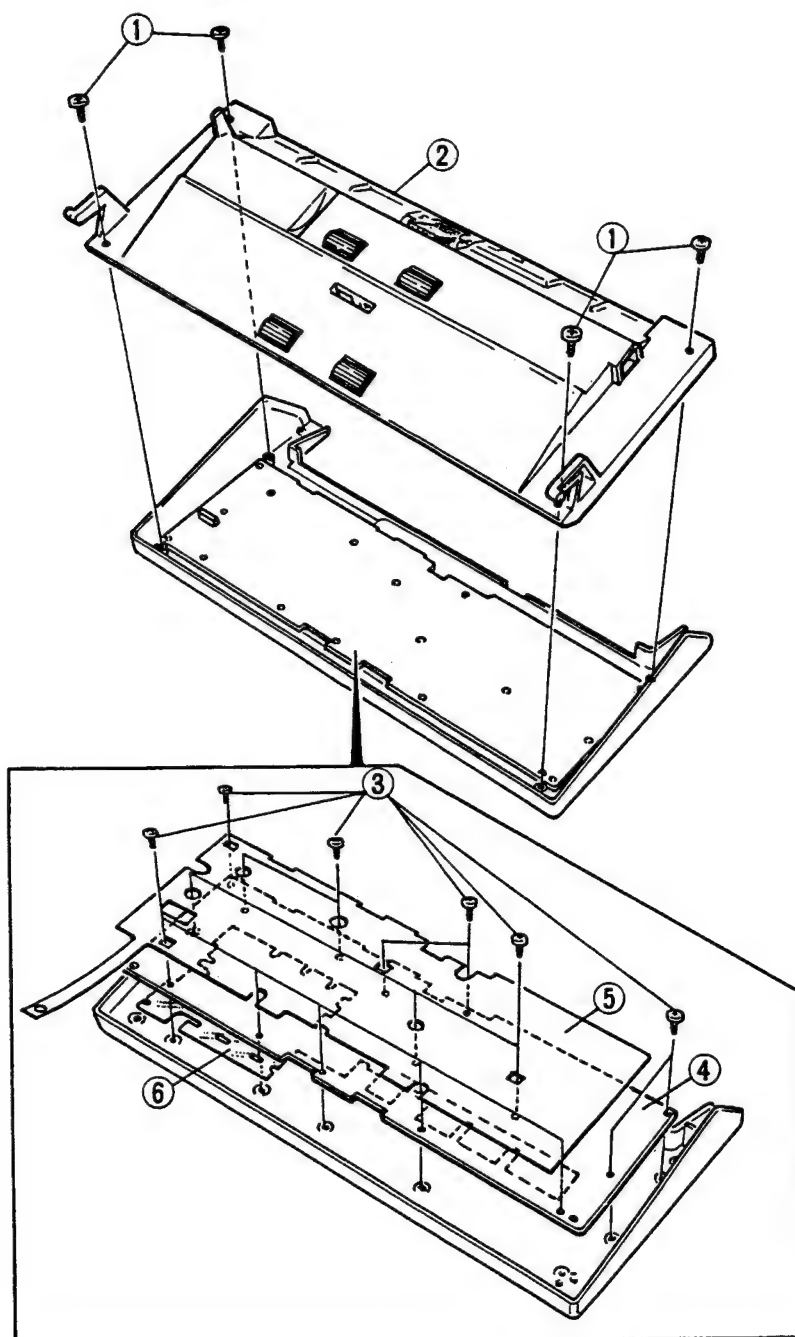
2.13 Front Cover Assembly, ADF Separator (146)

Step	Figure	Disassembly Procedure / Parts to be removed
1		Remove Front Cover (152) (Refer to Chap. 2.4)
2	①	Remove two screws (411)
3	②	Remove Document Guide Unit
4	③	Release the hooks to separate the Sub Tray (159) and the Guide Cover (167)
5	④⑤⑥	Remove central Screw (411), Nylon Washer (204) and Feed Gear (155)
6	⑦⑧	Remove Document Guides (153)(154)
7	⑨	Remove the ADF Separator (146)



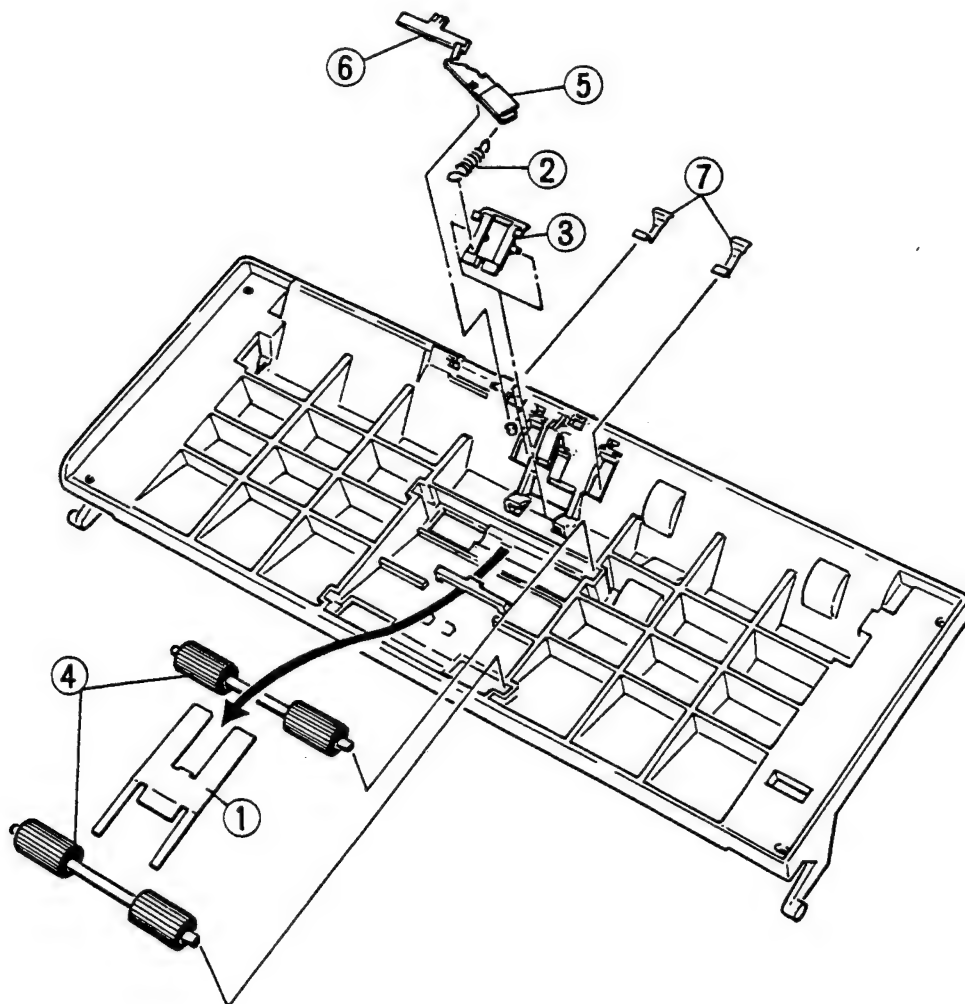
2.14 Transmitter Frame (135), Control Panel PCB (A7)

Step	Figure	Disassembly Procedure / Parts to be removed
1		Remove <i>Front Cover</i> (152) (Refer to Chap. 2.4)
2	①	Remove four <i>screws</i> (411)
	②	Remove the <i>Transmitter Frame</i> (135)
3	③	Remove 15 <i>screws</i> (404)
	④⑤⑥	Remove the <i>Control Panel PCB</i> (A7) and <i>Insulation Sheet</i> (200) (175)



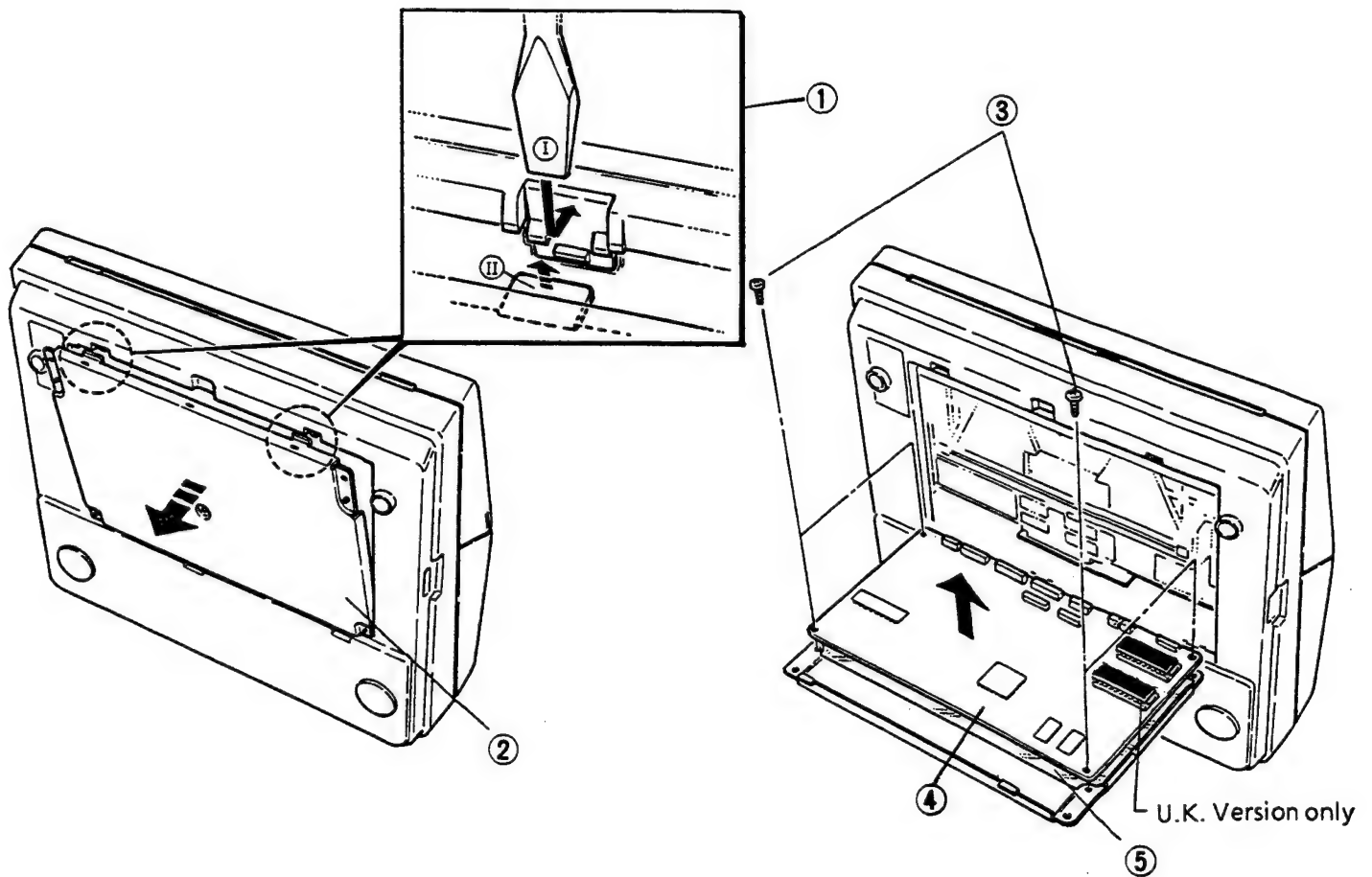
2.15 Free Roller (143), etc.

Step	Figure	Disassembly Procedure / Parts to be removed
1		Remove <i>Transmitter Frame</i> (135) (Refer to Chap. 2.13)
2	①	Remove the <i>Plate Spring</i> (138)
3	②	Remove the <i>Tension Spring</i> (149)
4	③	Remove the <i>Pressure Plate</i> (136)
5	④	Remove the <i>Free Rollers</i> (143)
6	⑤	Remove the <i>Adjustment Plate</i> (137)
7	⑥	Remove the <i>Adjustment Bar</i> (147)
8	⑦	Remove the <i>Guide Boards</i> (145)



2.16 SC PCB (A1)

Step	Figure	Disassembly Procedure / Parts to be removed
1	①	Use a blade -tip screw driver to release the two latches in the Base Plate (134)
	②	Open the Base Plate
2		Disconnect connectors CNJ10,11,12,13,14,15,16,27,28,29 (on SC PCB)
	③	Remove the four screws (402)
	④⑤	Remove the SC PCB (A1) and Insulation Sheet (201)



----- **Note** -----

Chapter 3

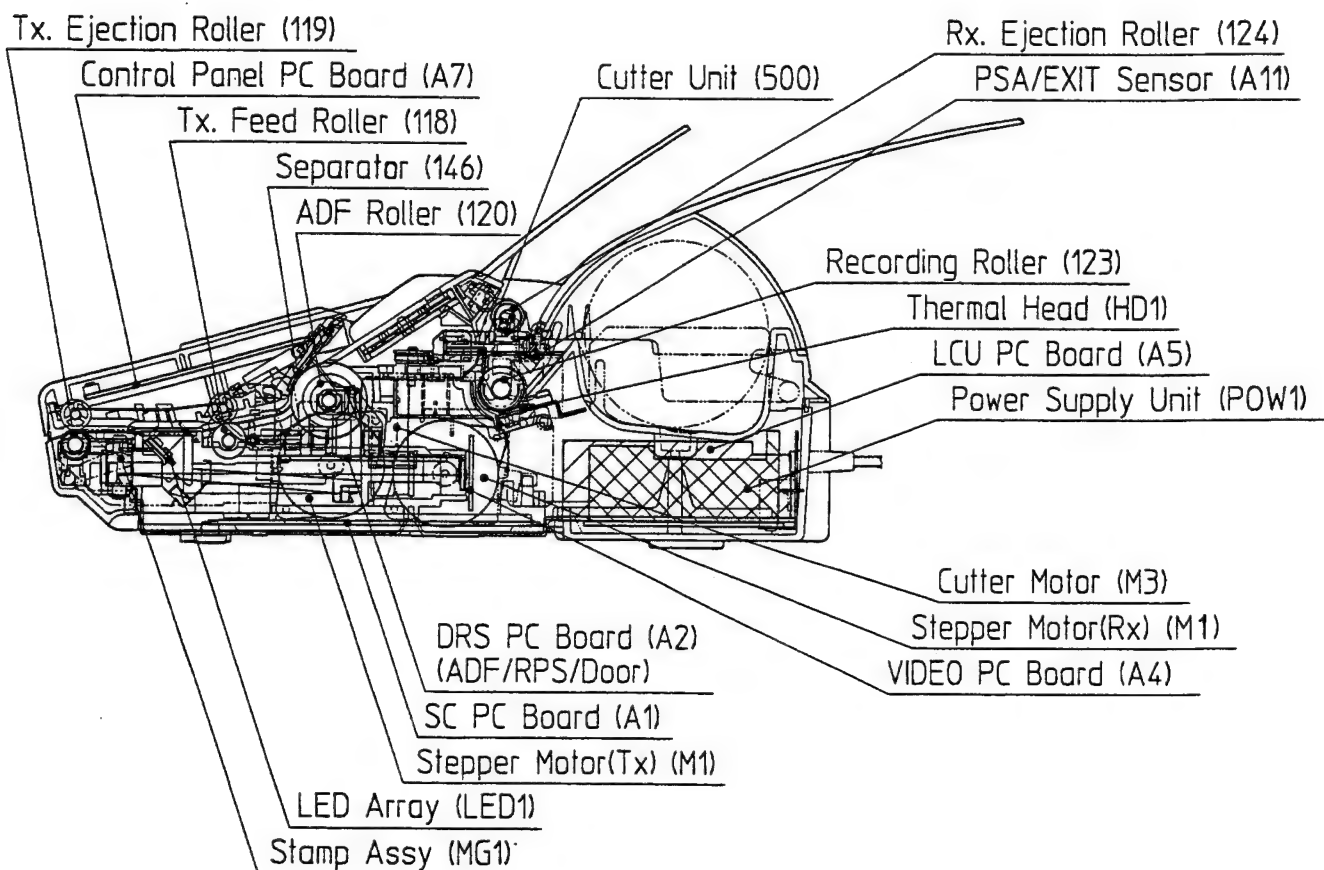
Maintenance and Adjustments

3.1	Necessary Tool List	3 - 2
3.2	Preventive Maintenance Points	3 - 2
3.3	Maintenance List	3 - 3
3.4	Cleaning	3 - 4
3.5	Program (ROM)	3 - 6
3.6	SC PC Board	3 - 8

3.1 Necessary Tool List

No.	Tool	No.	Tool
1	Soft Cloth	4	Tweezers
2	Ethyl Alcohol	5	Pilers
3	Screw Drivers		

3.2 Preventive maintenance points



3.3 Maintenance List

No.	Items	Cleaning		Replacement	
		Cycle	Procedure	Cycle	Procedure
1	Thermal Head	3 months	See P. 2-9	4 years	See P. 2-9
2	Recording Roller	3 months	See P. 2-9	5 years	See P. 2-9
3	Scanner Glass	3 months	See P. 2-6	5 years	See P. 2-6
4	ADF Roller	3 months	See P. 2-6	1 - 3 years (10,000 documents)	See P. 2-6
5	Separator	3 months	See P. 2-15	1 - 3 years (10,000 documents)	See P. 2-15
6	Driving Roller	3 months	See P. 2-6	3 - 5 years (30,000 documents)	See P. 2-6
7	Exit Roller	3 months	See P. 2-8	1 - 3 years (30,000 document)	See P. 2-8
8	Cutter Unit	—	See P. 2-9	5 years (30,000 documents)	See P. 2-9
9	⊗ Stamp	—	—	1 - 3 years (5,000 documents)	See P. 2-6
10	TX Motor	—	—	5 years	See P. 2-10
11	RX Motor	—	—	5 years	See P. 2-10
12	PSA Sensor	3 months	See P. 2-8	—	See P. 2-8
13	EXIT Sensor	3 months	See P. 2-8	—	See P. 2-8

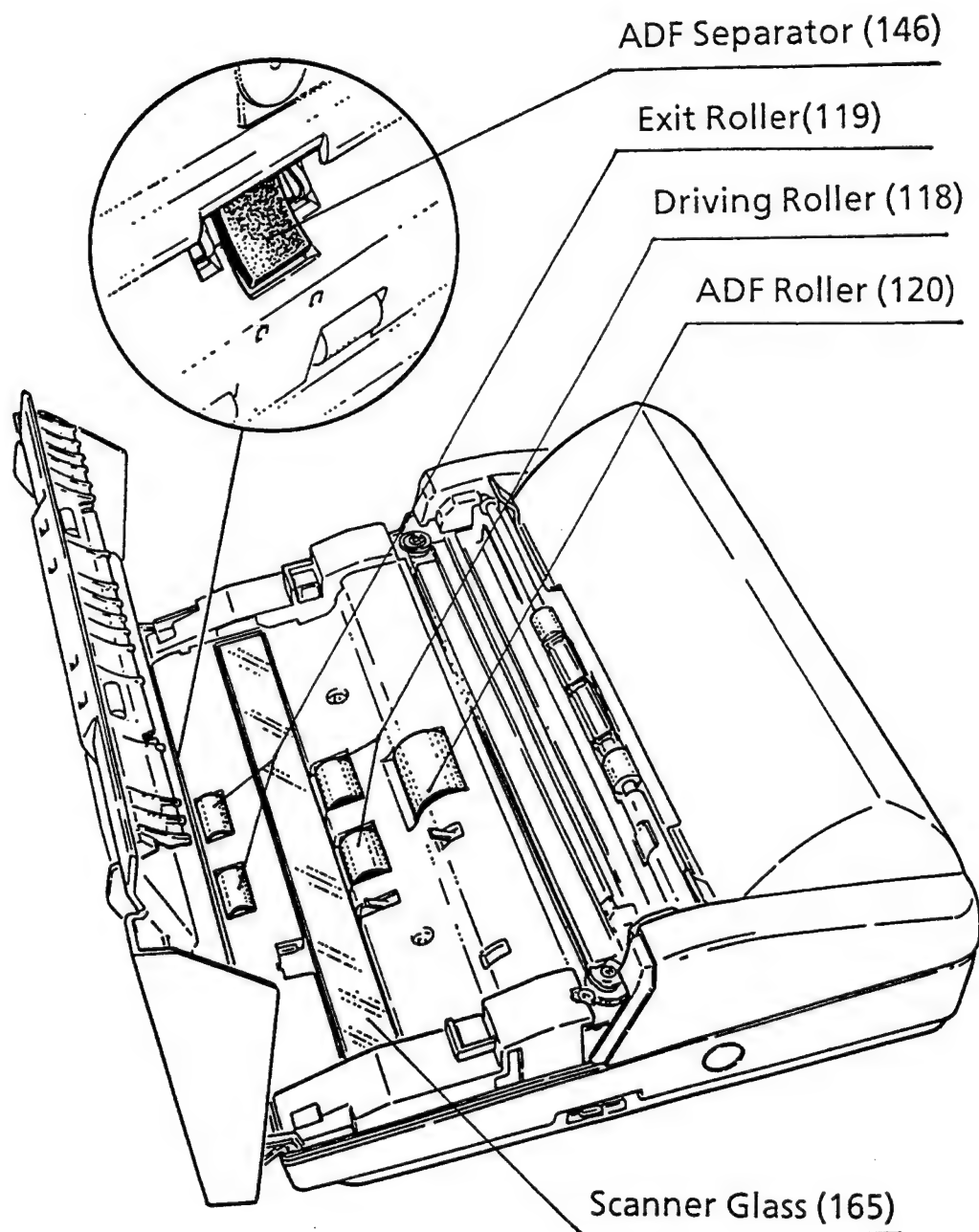
3.4 Cleaning

3.4.1 Cleaning the Scanner Glass (165) and,ADF Roller(120), Driving Roller (118), Exit Roller (119)

(1) Lift the Front Cover (152).

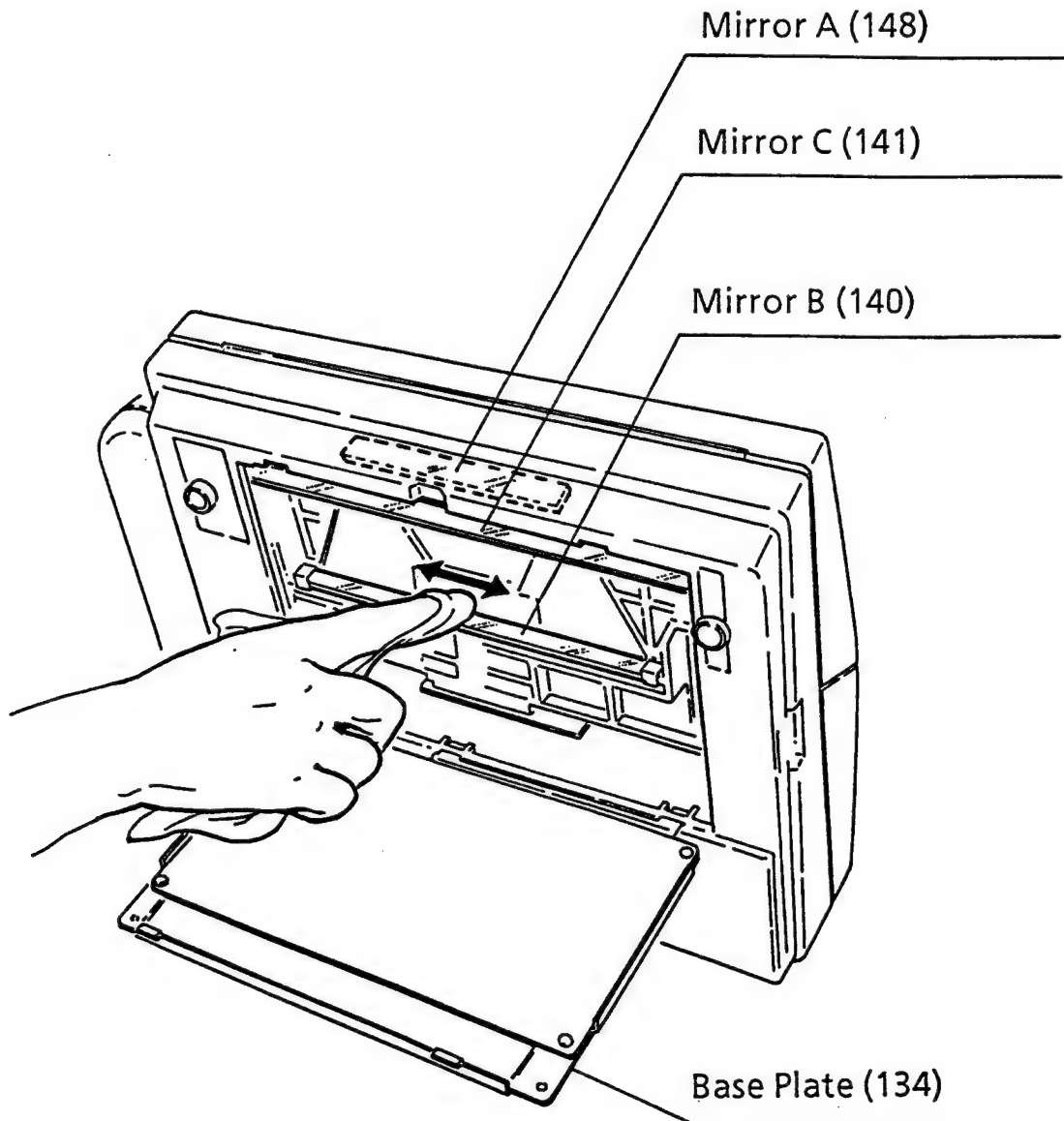
(2) Wipe the surface of the scanner Glass gently with a soft cloth or gauze soaked in ethyl alcohol.

(3) Clean the ADF Separator (146) and each roller with a soft cloth or gauze soaked in ethyl alcohol while rotating the roller with your fingers.



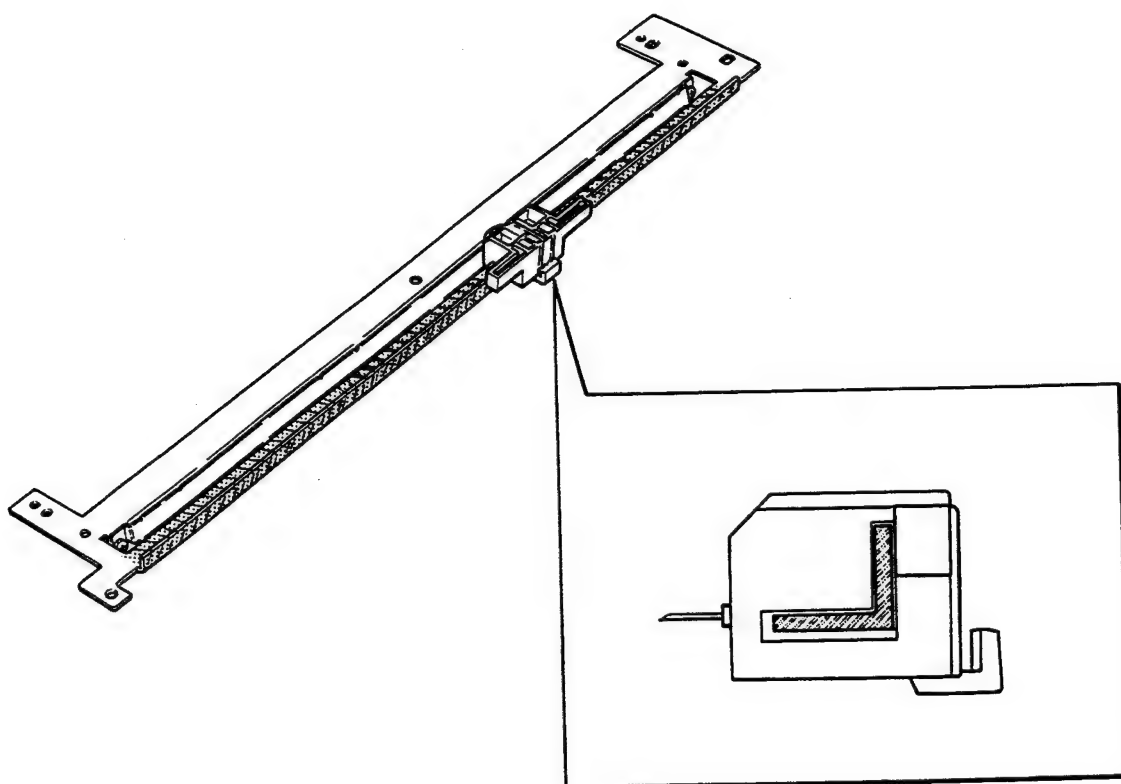
3.4.2 Cleaning the Mirrors (140,141,148)

- (1) Raise the unit to reveal the under side.
- (2) Use a blade-tip screw driver to release the two latches in the Base Plate (134).
- (3) Use a soft cloth or gauze soaked in ethyl alcohol to clean the mirrors.



3.4.3 Cleaning the Cutter (500)

- (1) If the Cutter Unit is clogged with dust etc. please clean it following the method shown below.
- (2) Remove the Cutter Unit (500)(Refer to Chapter 2.8)
- (3) Clean the rail (shaded portion)with a soft cloth or gauze soaked in ethyl alcohol while sliding the carriage with your fingers.
- (4) After you have finished cleaning the rail, lubricate it by applying grease.

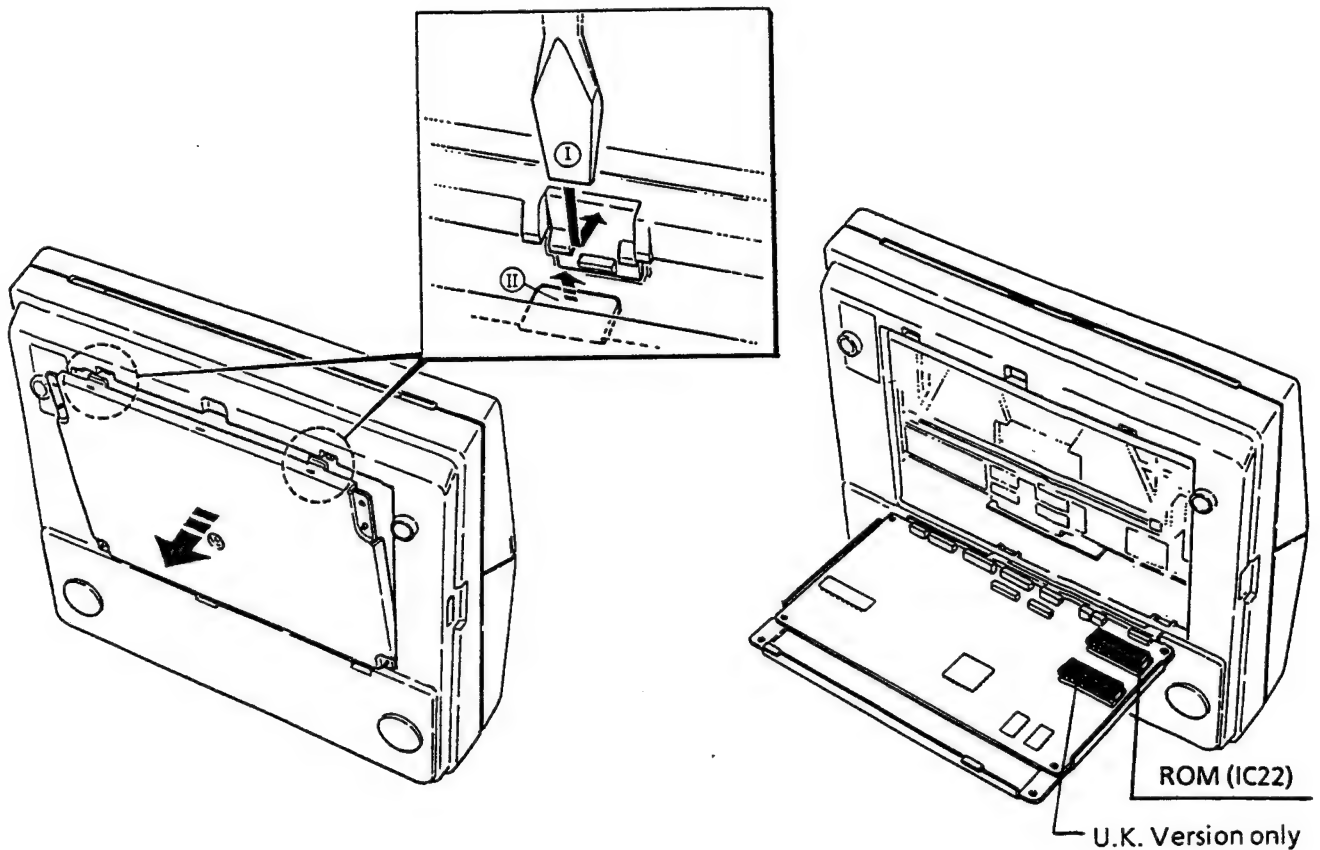


3.5 Program (ROM)

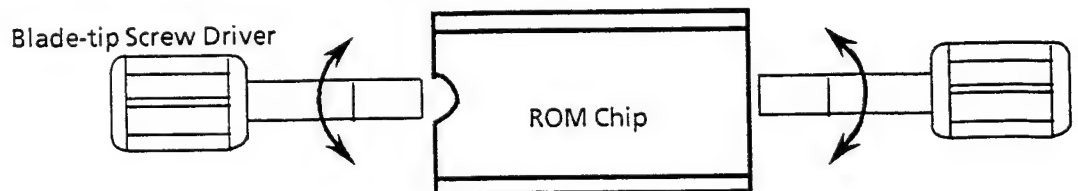
3.5.1 Replacement Procedure

(ROM is mounted on SC PC Board.)

- (1) Switch power off.
- (2) Lift the unit to access the underneath.
- (3) Use a blade-tip screw driver to release the two latches in the Base Plate (134).
- (4) Lower the Base Plate to access the ROM chip.

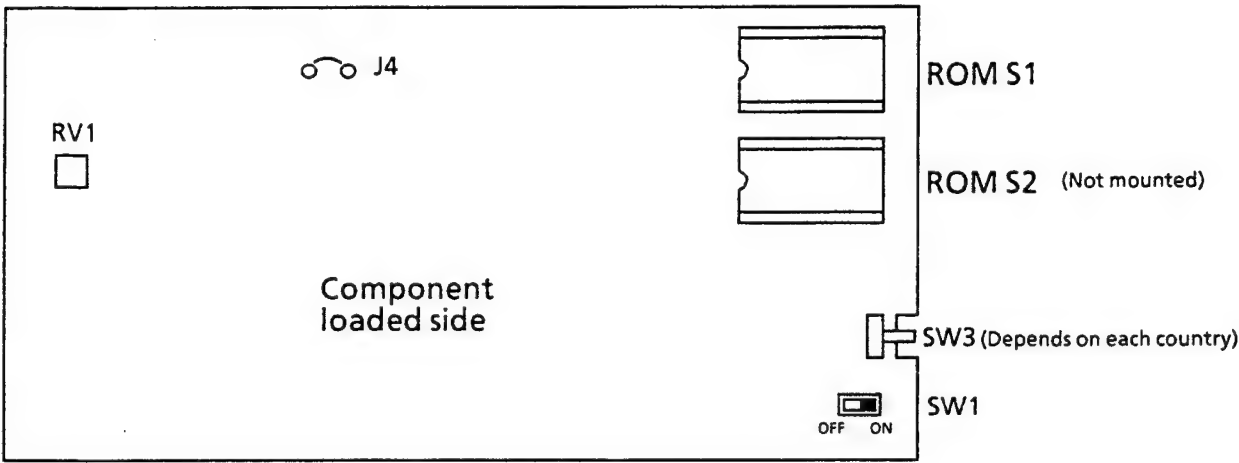


- (5) Remove ROM with blade-tip screw driver or equivalent tool.

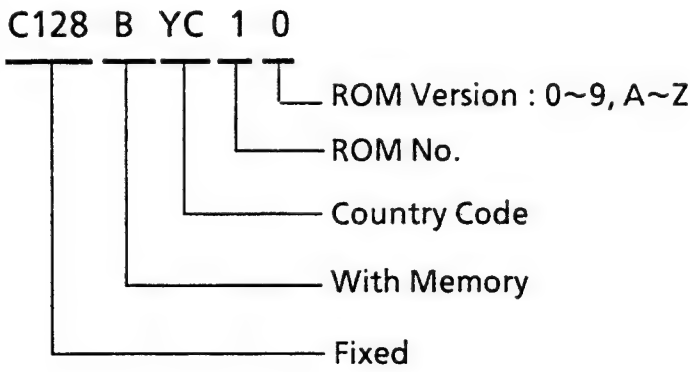


- (6) Insert new ROM.
- (7) Assemble machine.

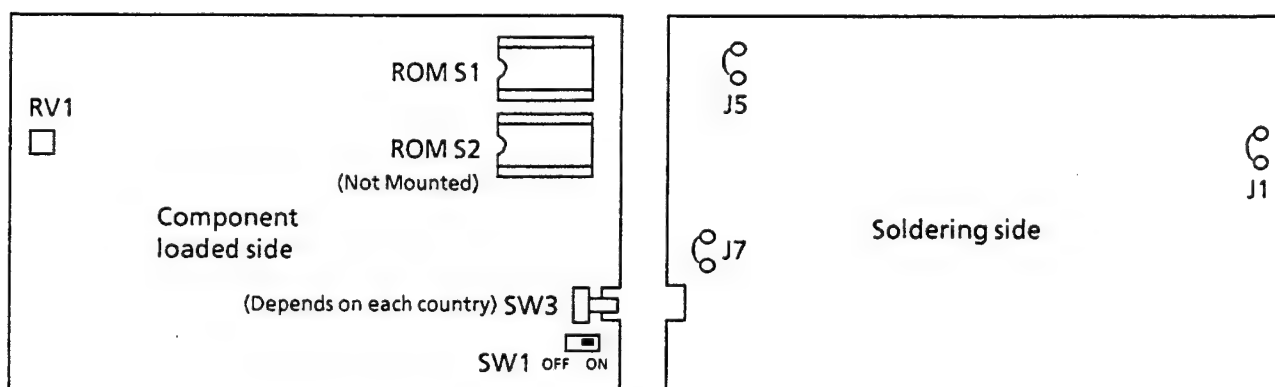
3.5.2 ROM Location



3.5.3 ROM Label



3.6 SC PC Board



(1) Jumper

Symbol	Factory setting	Description
J7	Short	Panel touch tone & Operator Calling loudness selection Short: Loud Open: Soft
J5	Short	Depends on each country.
J1, 6	Open	Depends on each country.

(2) Volume

Symbol	Description	Remarks
RV1	Fine adjustment of fax signal output level	Adjusted by factory

(3) Switch

Symbol	Factory setting	Description
SW1	ON	Battery switch
SW3		Depends on each country.

(4) Test Pin

Symbol	Description	Remarks
TG	GND	
TP1~3	Not mounted	

----- **Note** -----

Chapter 4

Troubleshooting

[Field]

4.1	General Troubleshooting Flow Chart	4 - 2
4.2	Power LED Not Lit	4 - 3
4.3	Display Panel Malfunction	4 - 4
4.4	(Not Included)	
4.5	Information Code Displayed	4 - 5
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4.12	Dialing Error	4 - 19
4.13	Polling Operation Trouble	4 - 20
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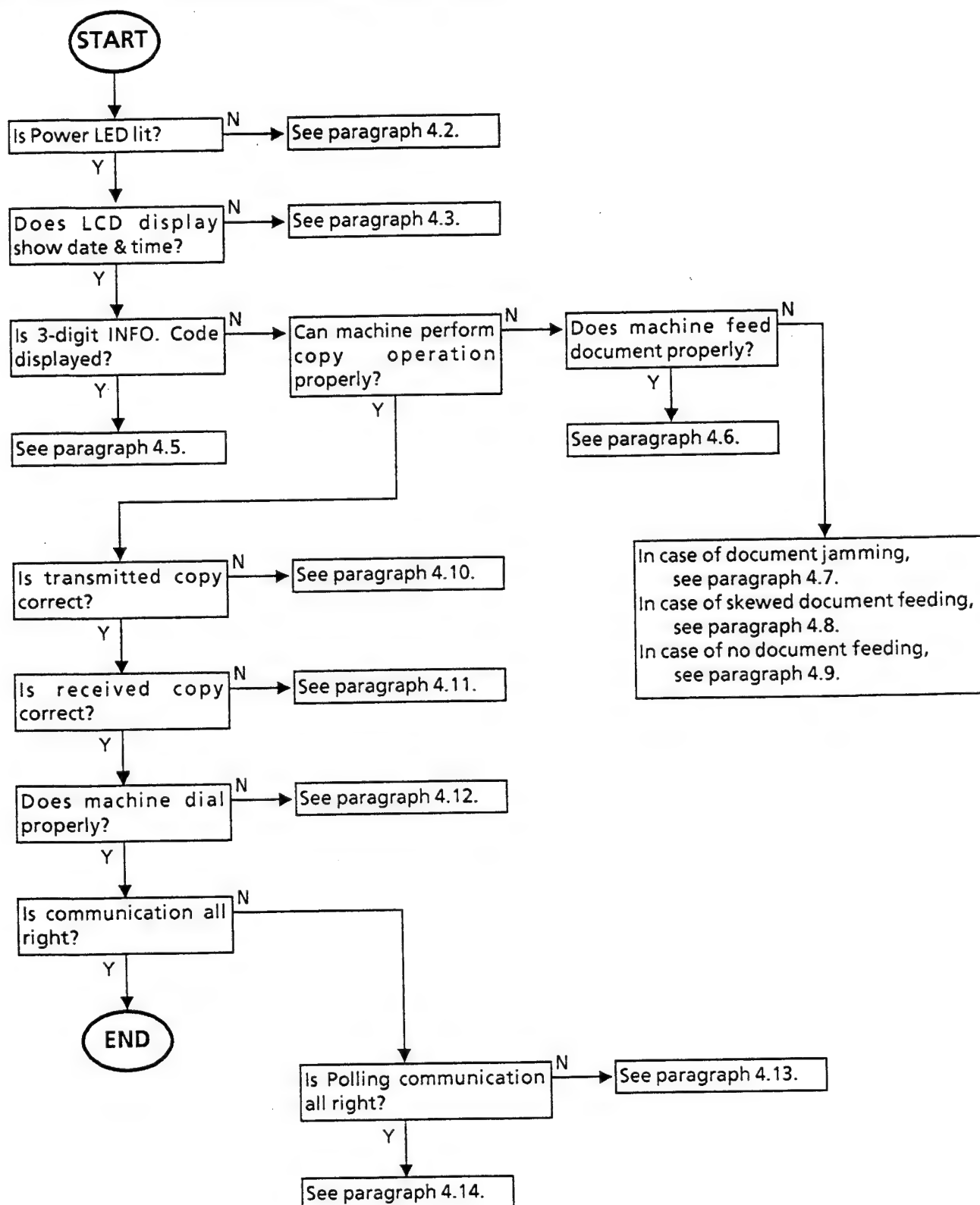
[Workshop]

4.15	SC PCB Defective	4 - 22
4.16	Handset Defective (SRU PC Board)	4 - 32
4.17	Power Supply Unit Defective	4 - 33

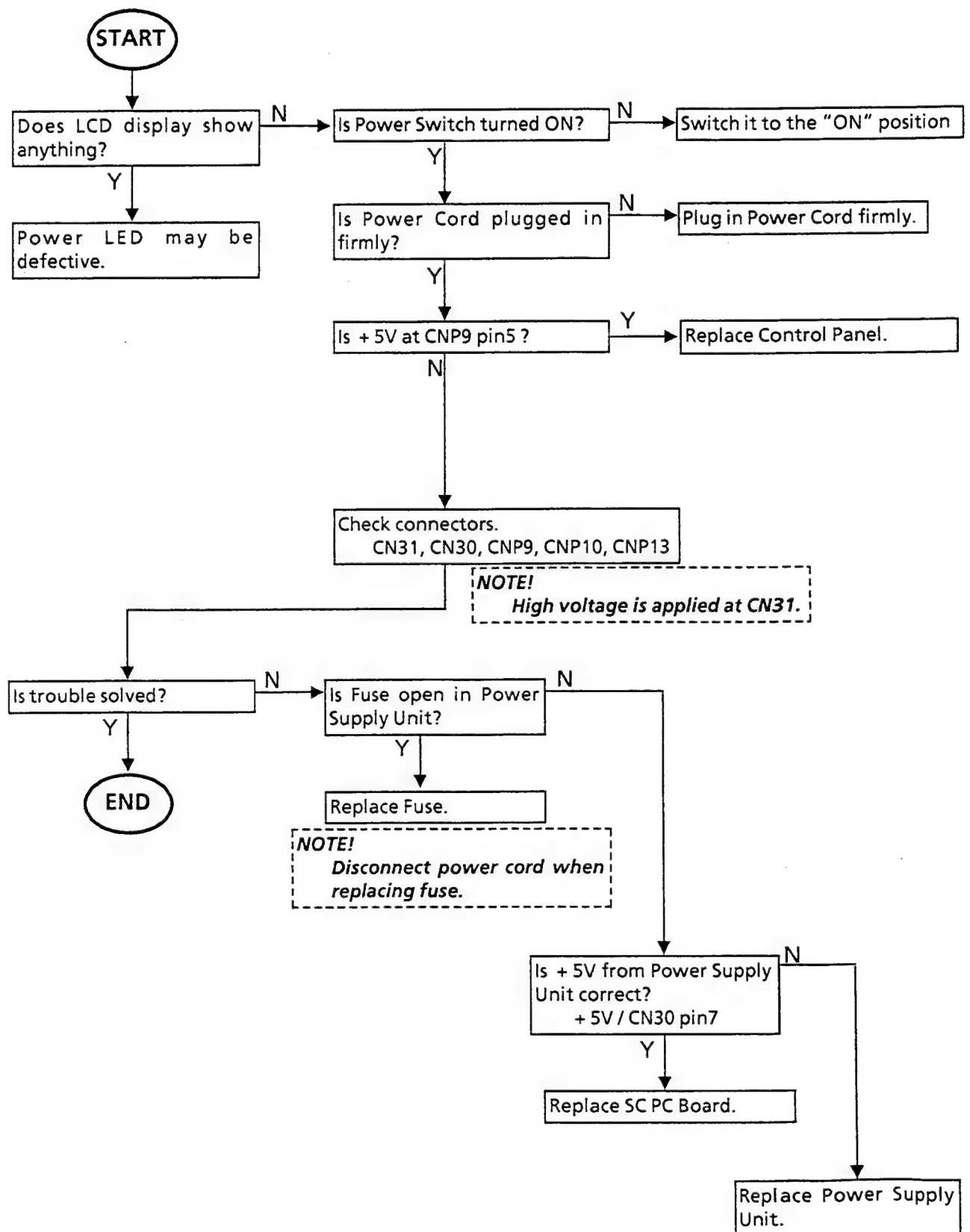
[Reference]

4.18	Information Code Table	4 - 35
4.19	Diagnostic Code Table	4 - 40

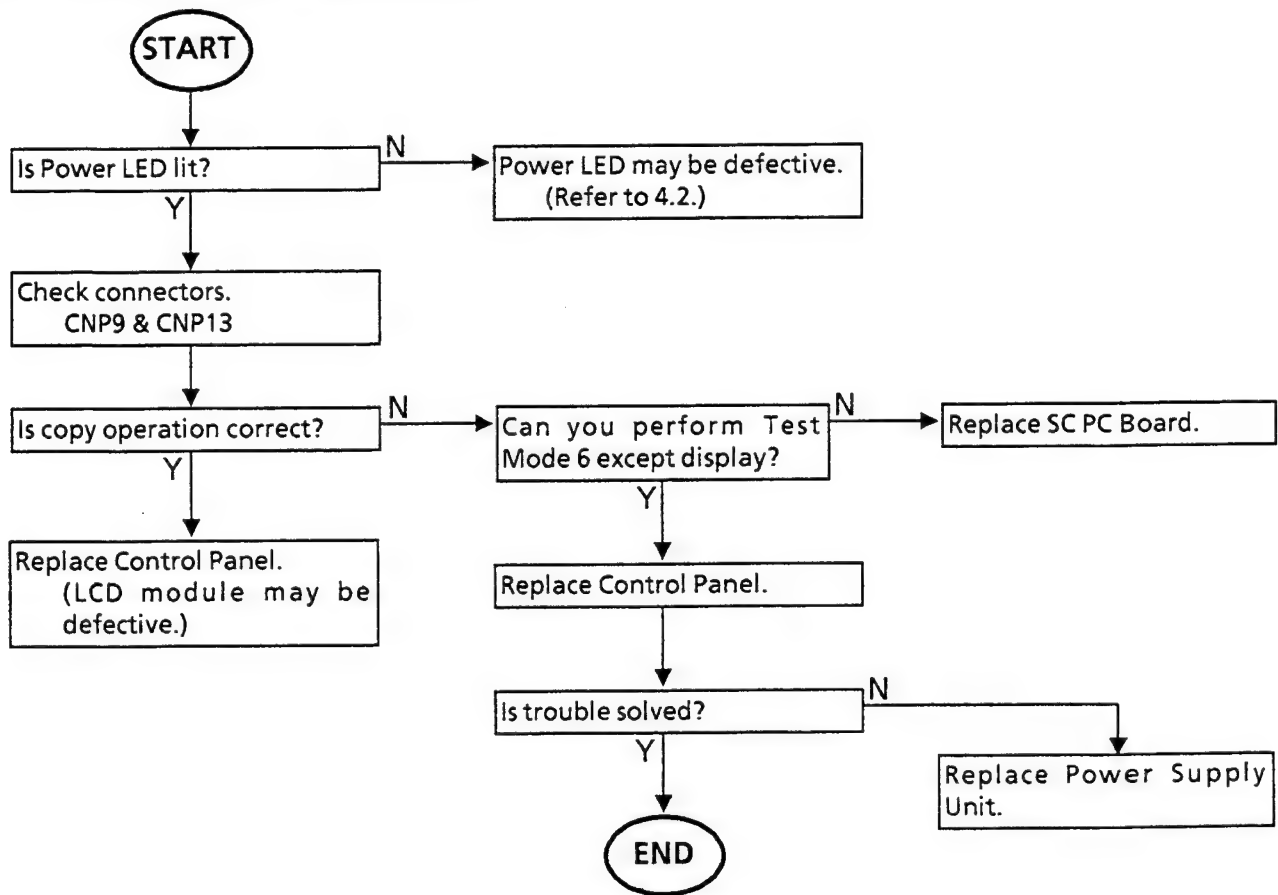
4.1 General Troubleshooting Flow Chart



4.2 Power LED Not Lit

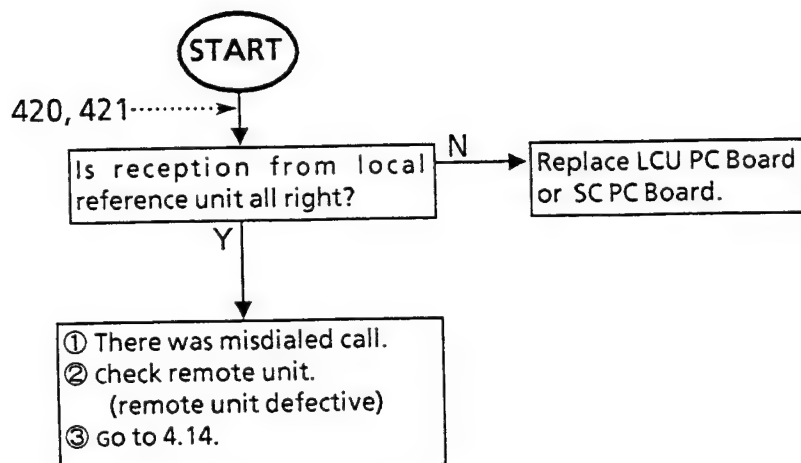
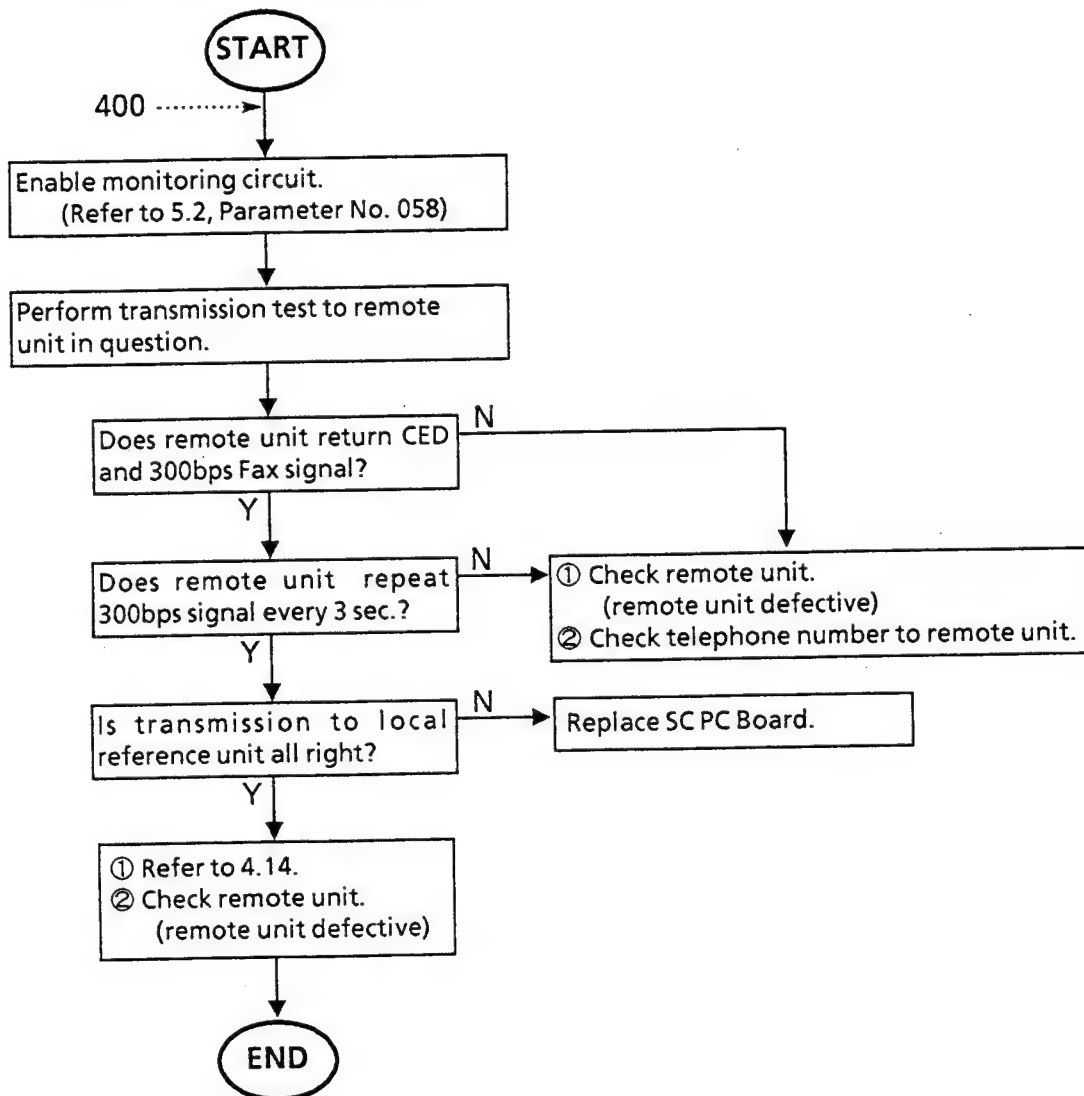


4.3 Display Panel Malfunction

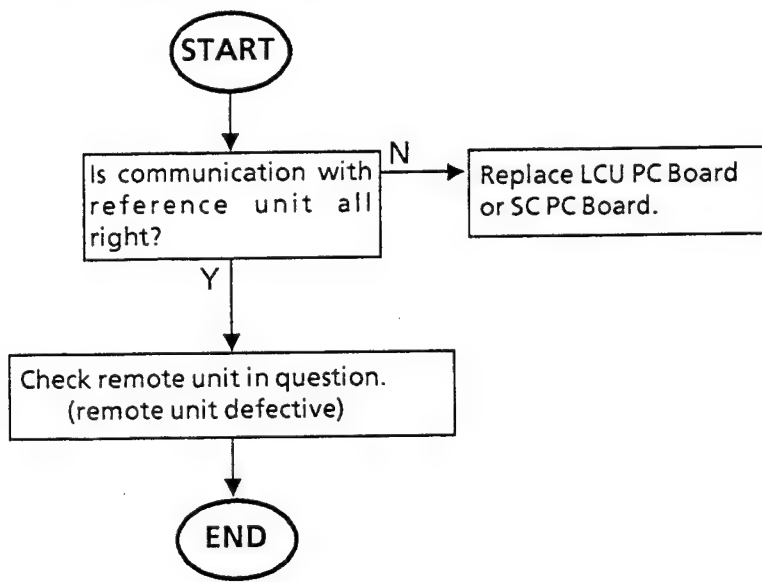


4.5 Information Code Displayed

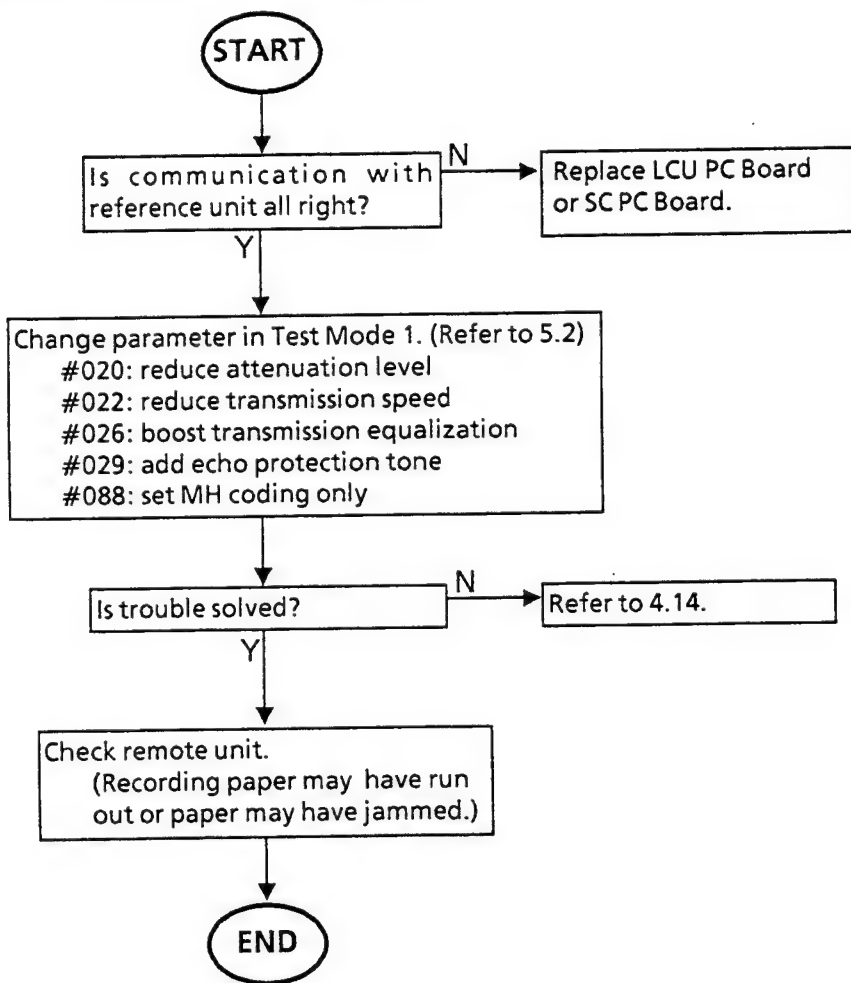
4.5.1 INFO. Code: 400, 420, 421



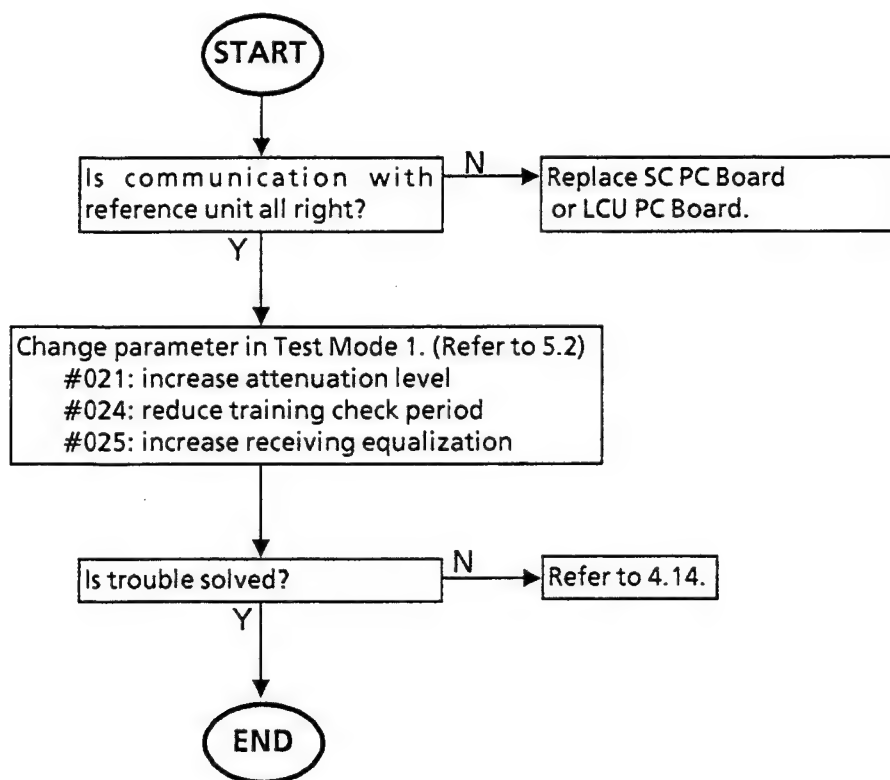
4.5.2 INFO. Code: 402, 422



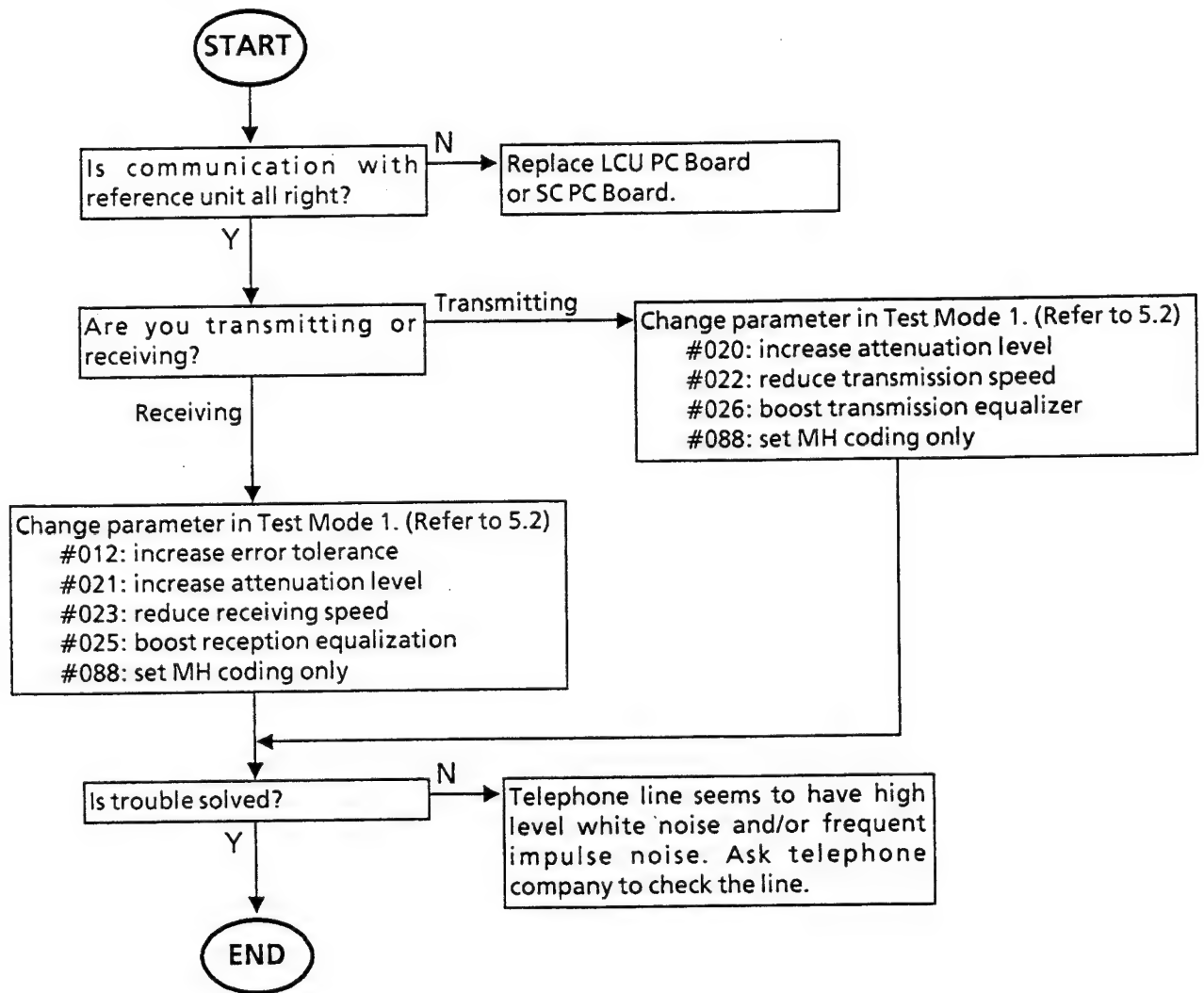
4.5.3 INFO. Code: 404, 405, 407



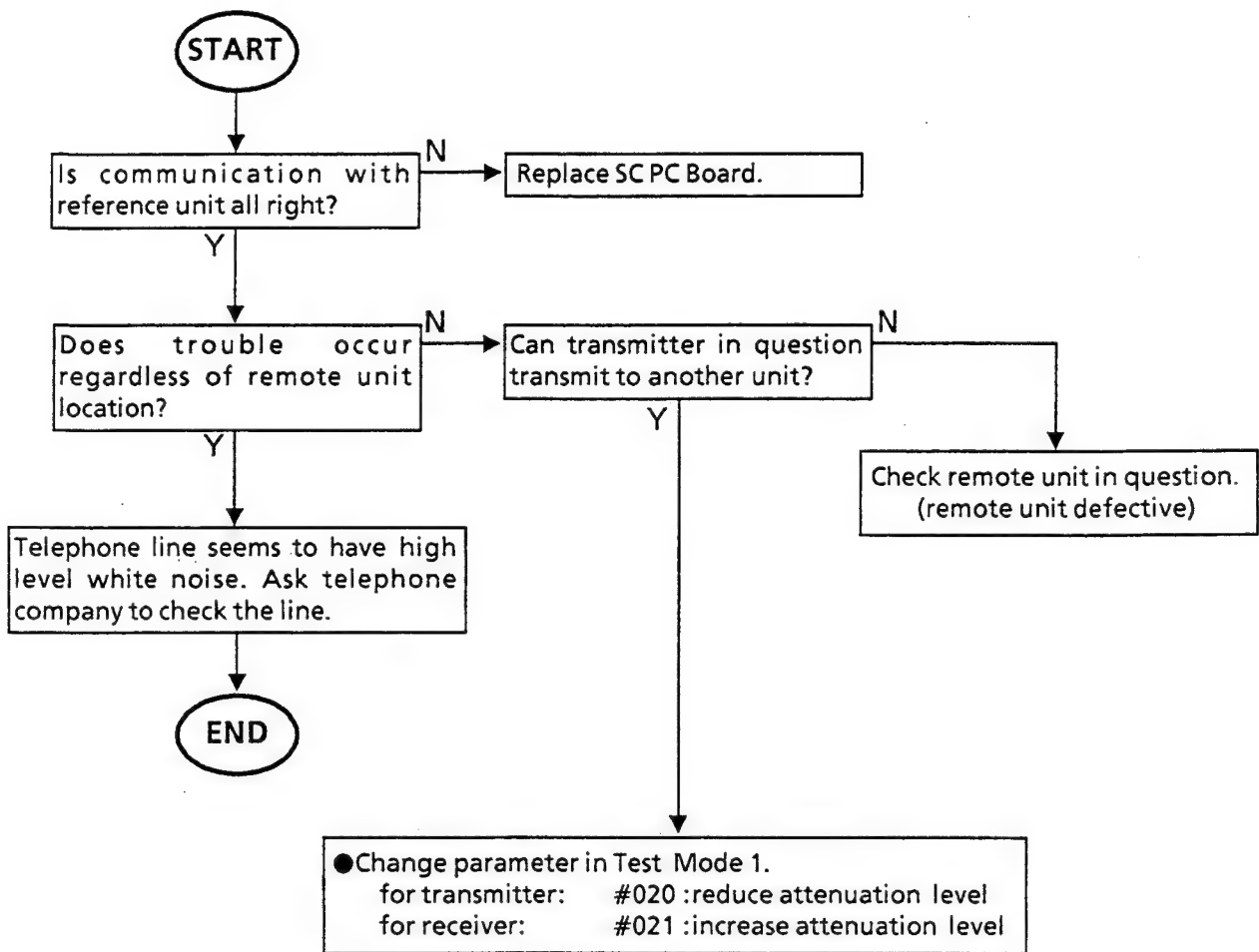
4.5.4 INFO. Code: 412, 416, 436



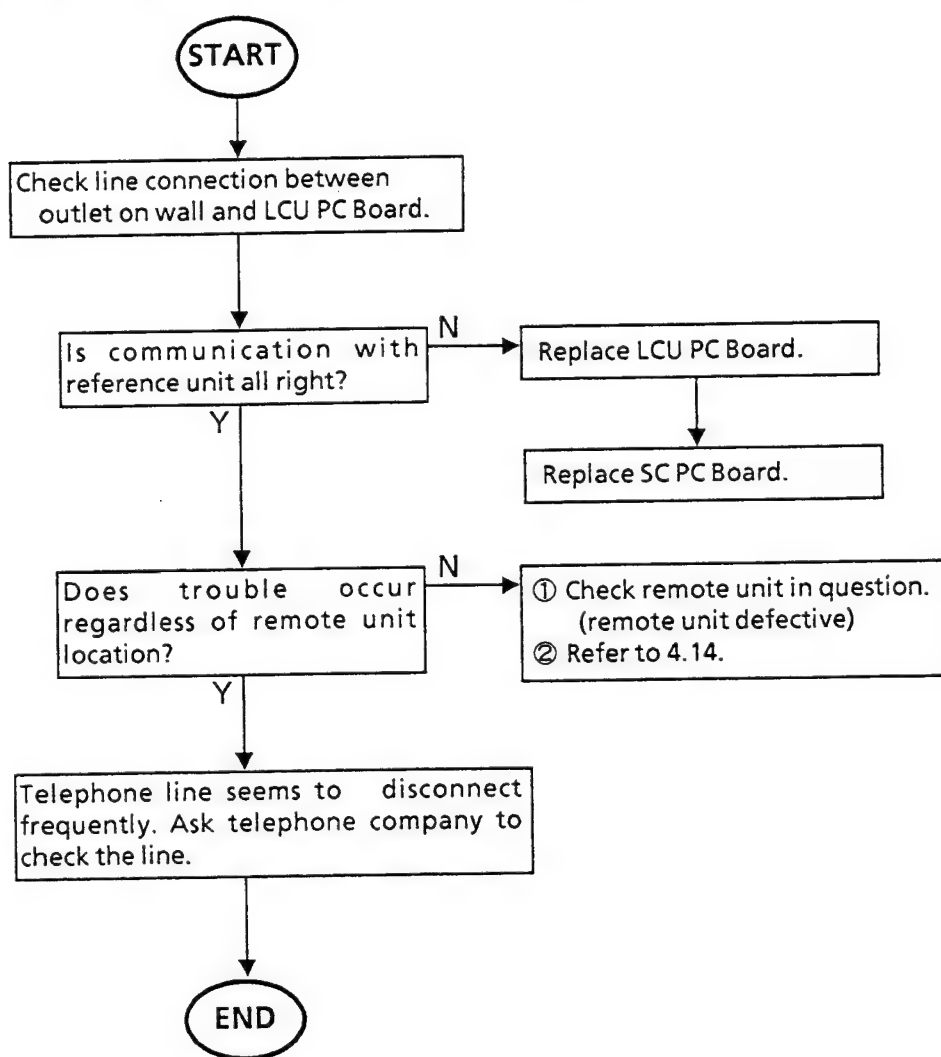
4.5.5 INFO. Code: 408, 409, 417, 418, 419, 490



4.5.6 INFO. Code: 432, 434

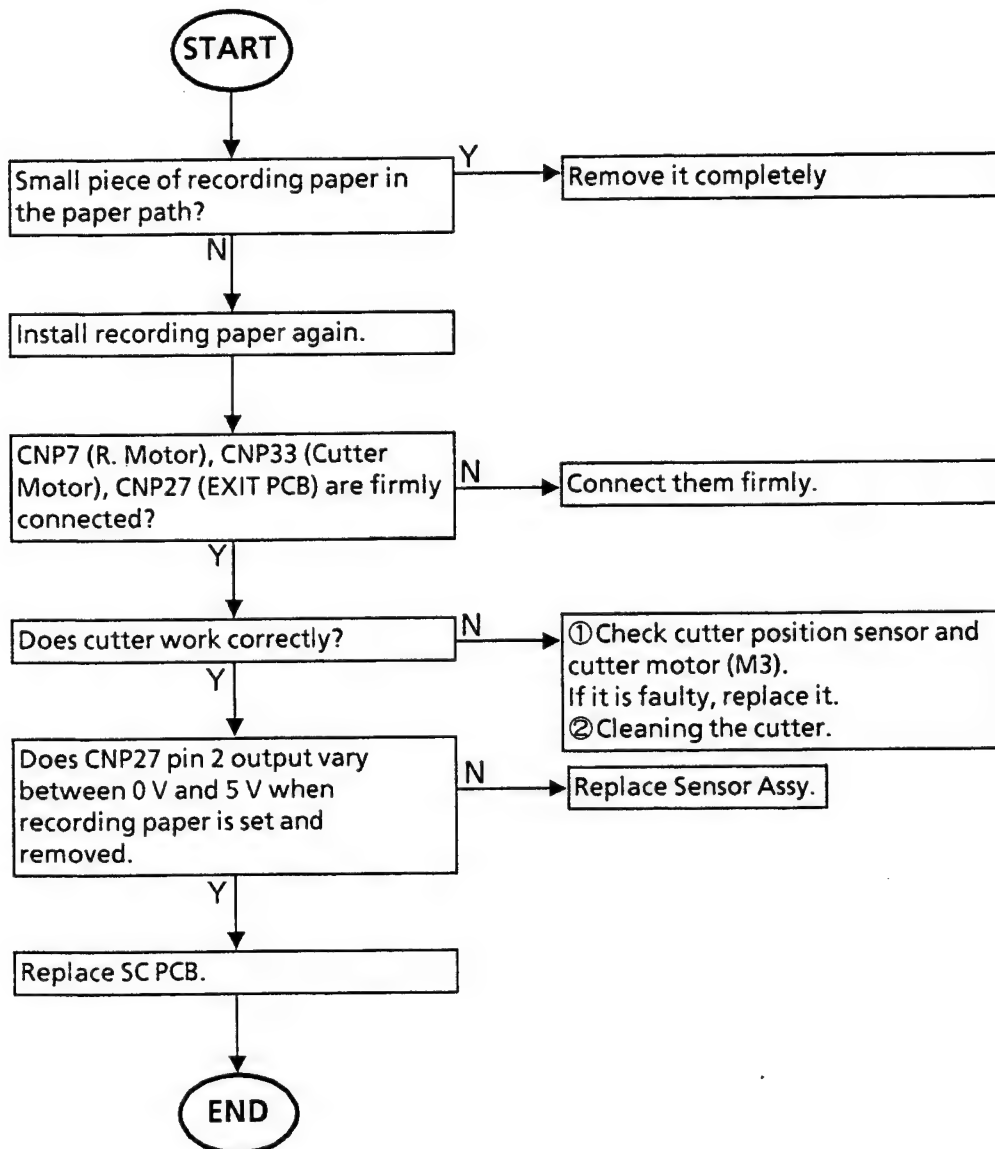


4.5.7 INFO. Code: 451, 458, 459, 492, 493, 494, 495

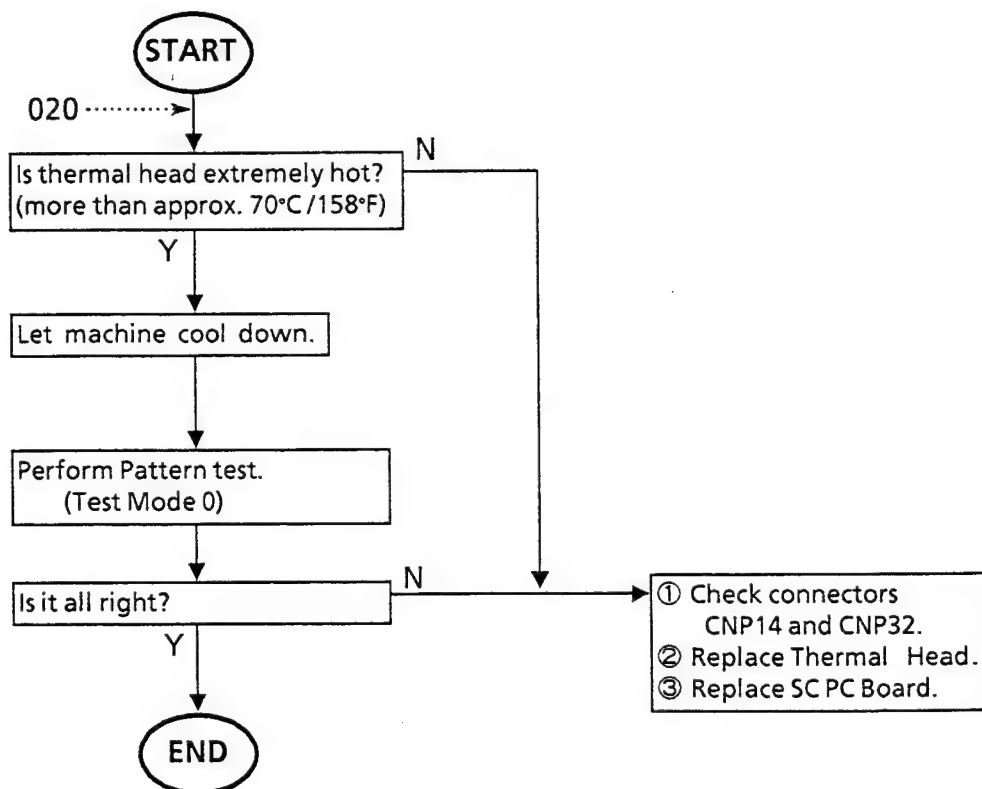
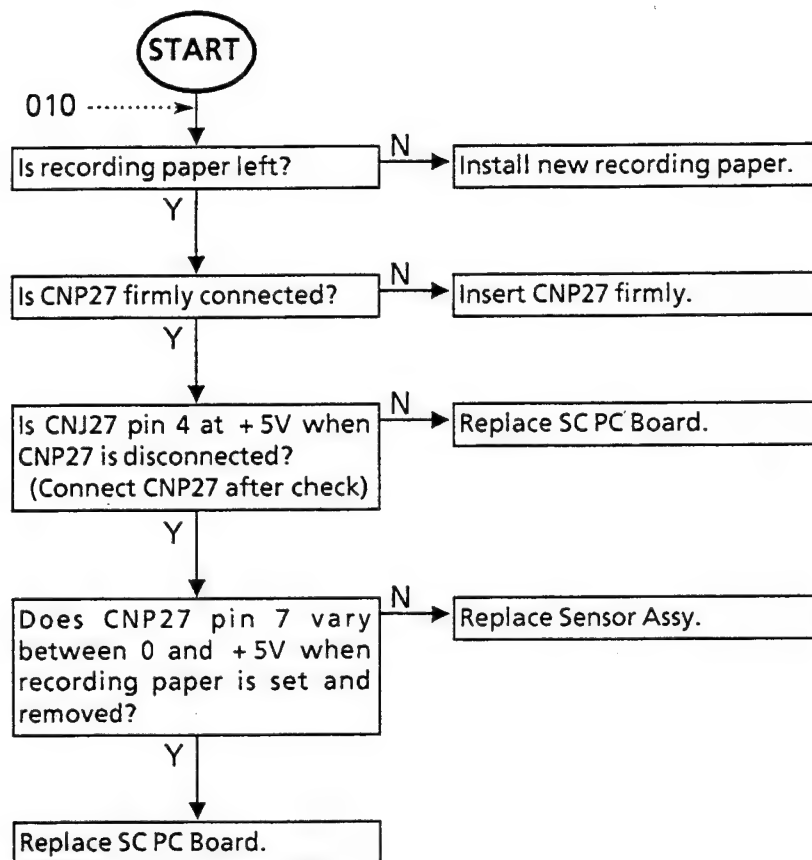


4.6 Recording Paper Path Trouble

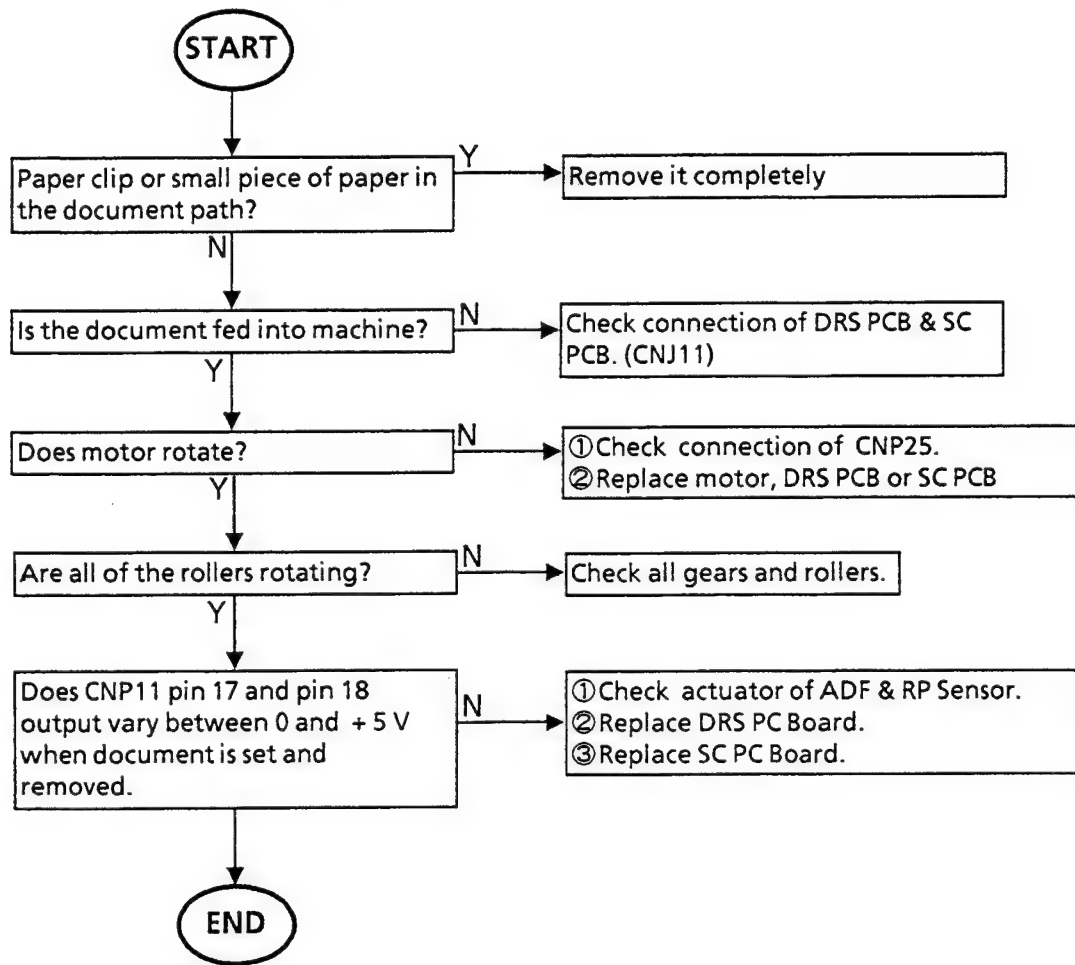
4.6.1 INFO. Code : 001~004



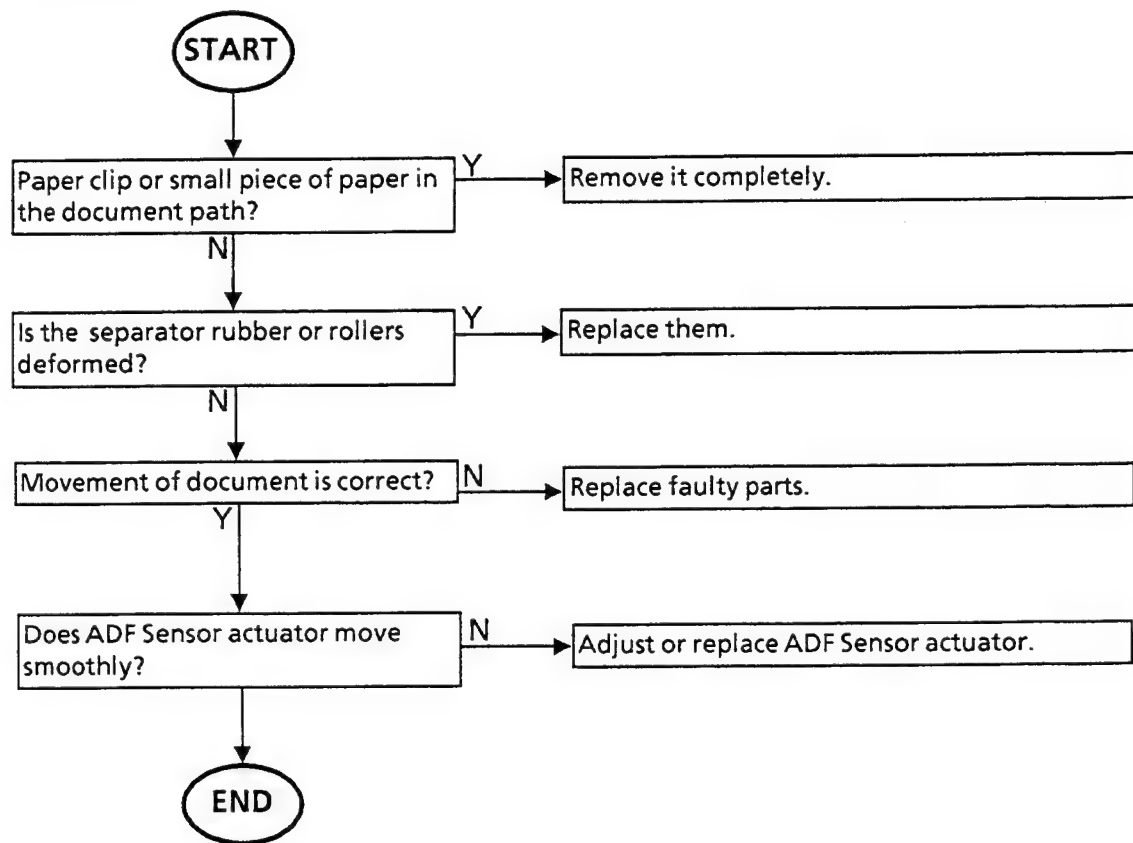
4.6.2 INFO. Code: 010, 020



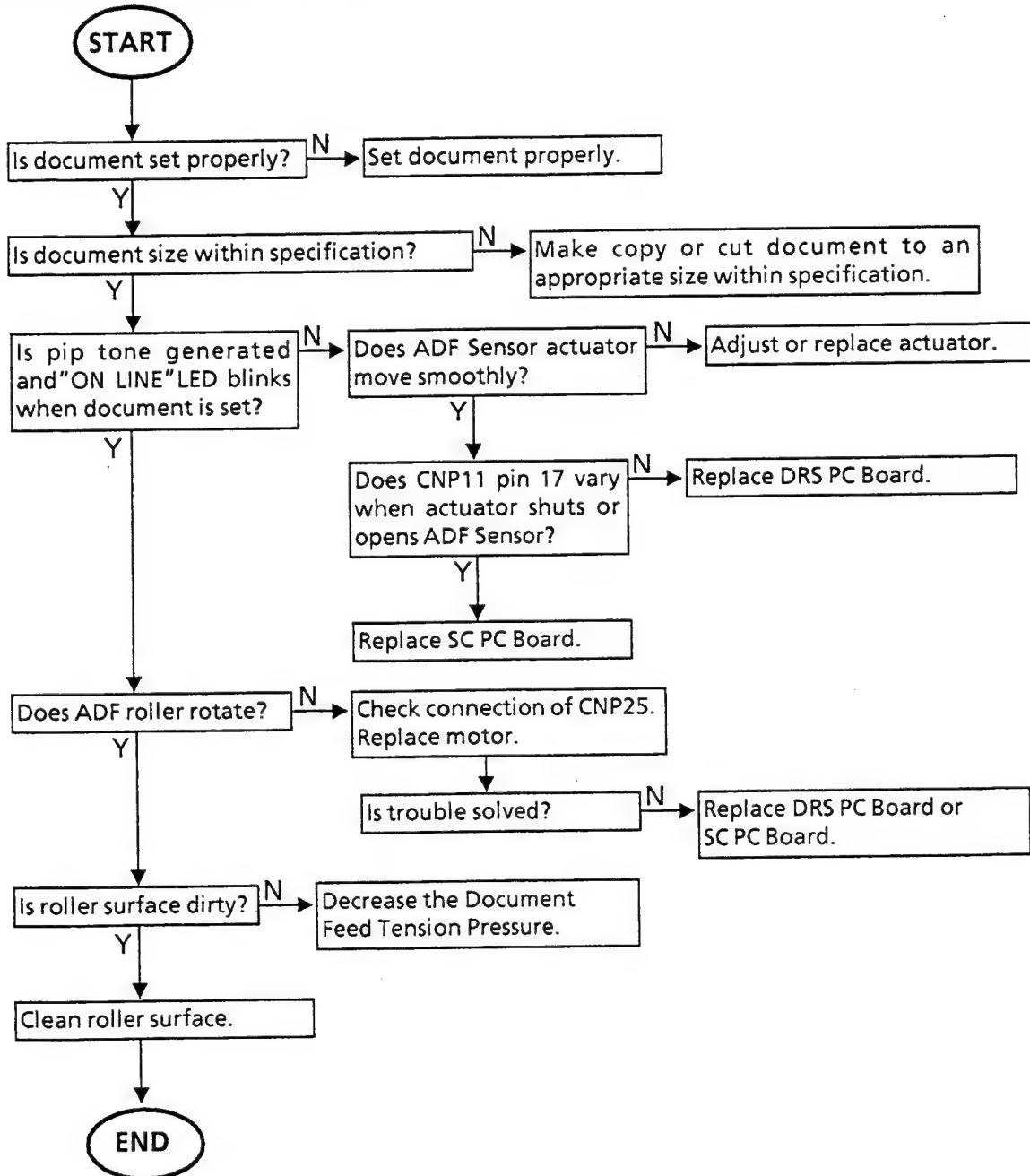
4.7 Document Jamming (INFO. Code: 030,031)



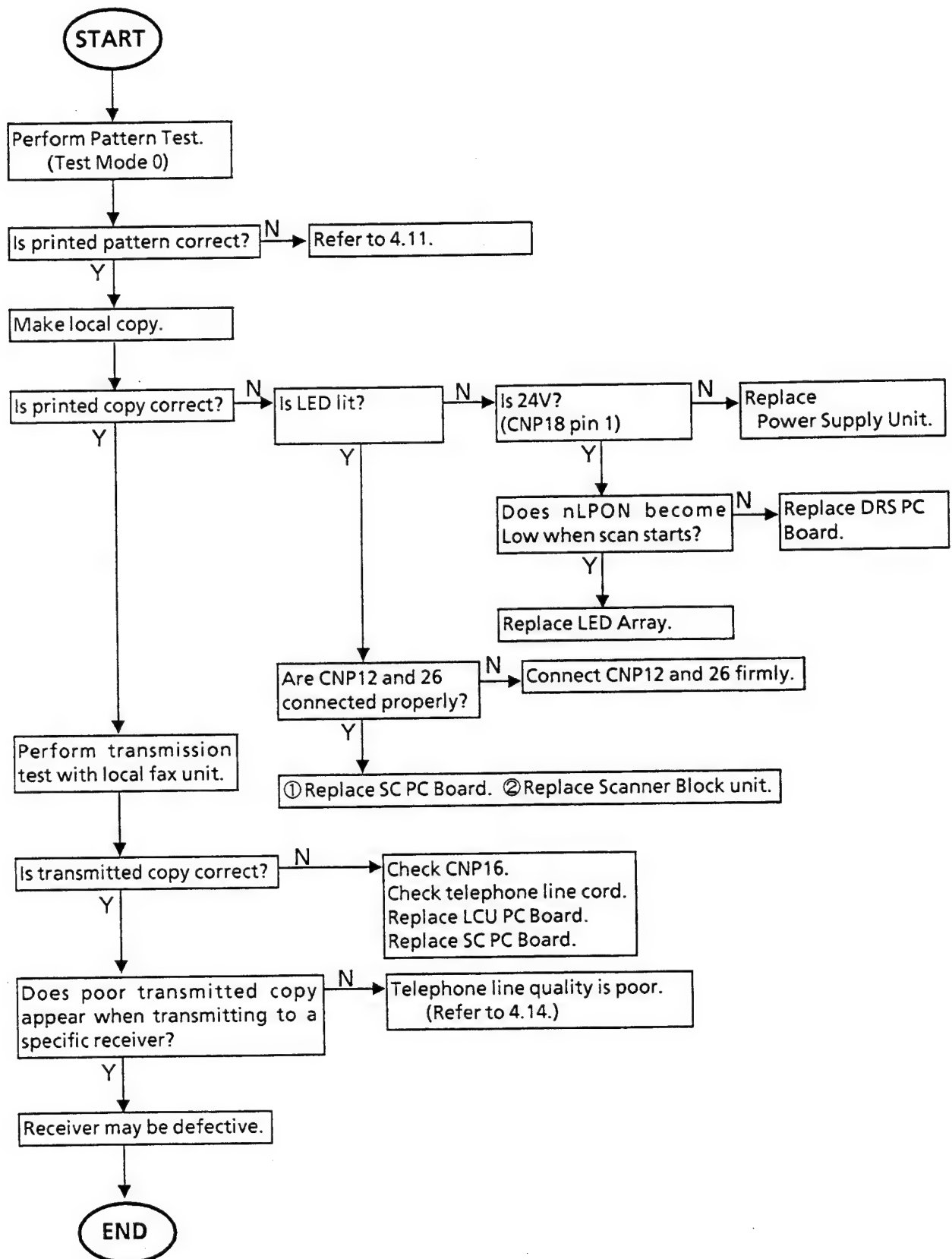
4.8 Document Skew



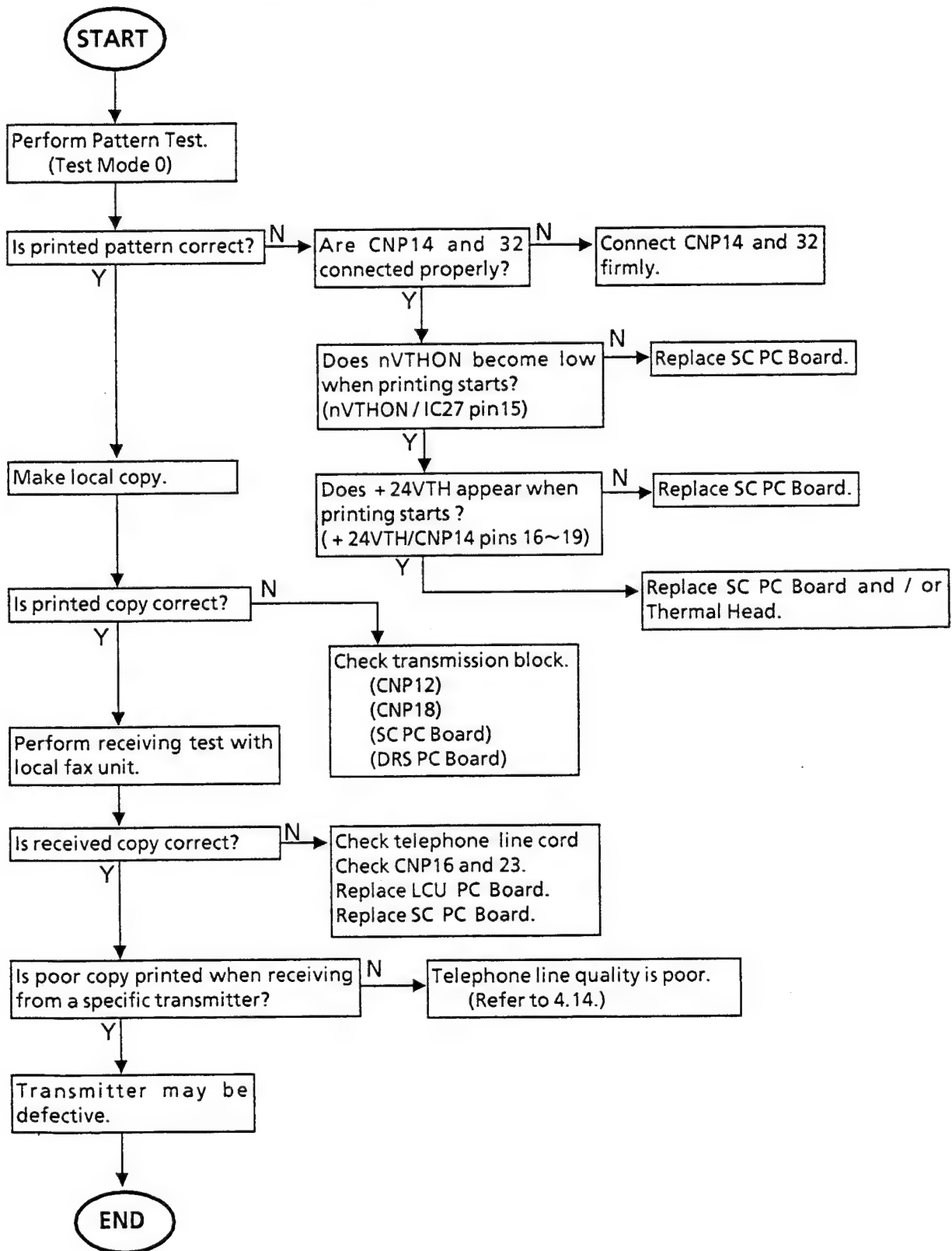
4.9 No Document Feeding



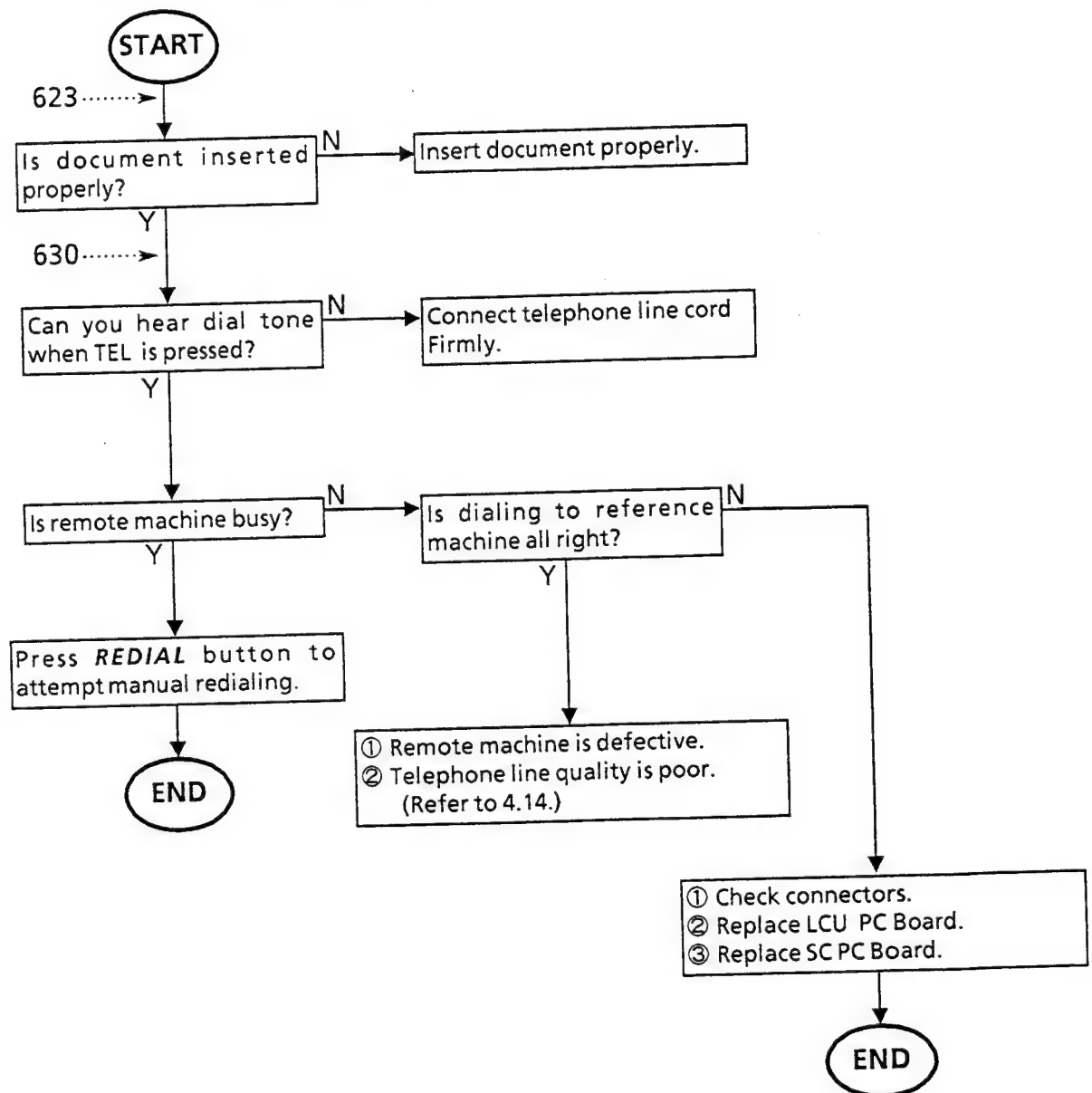
4.10 Transmitted Copy Quality Poor



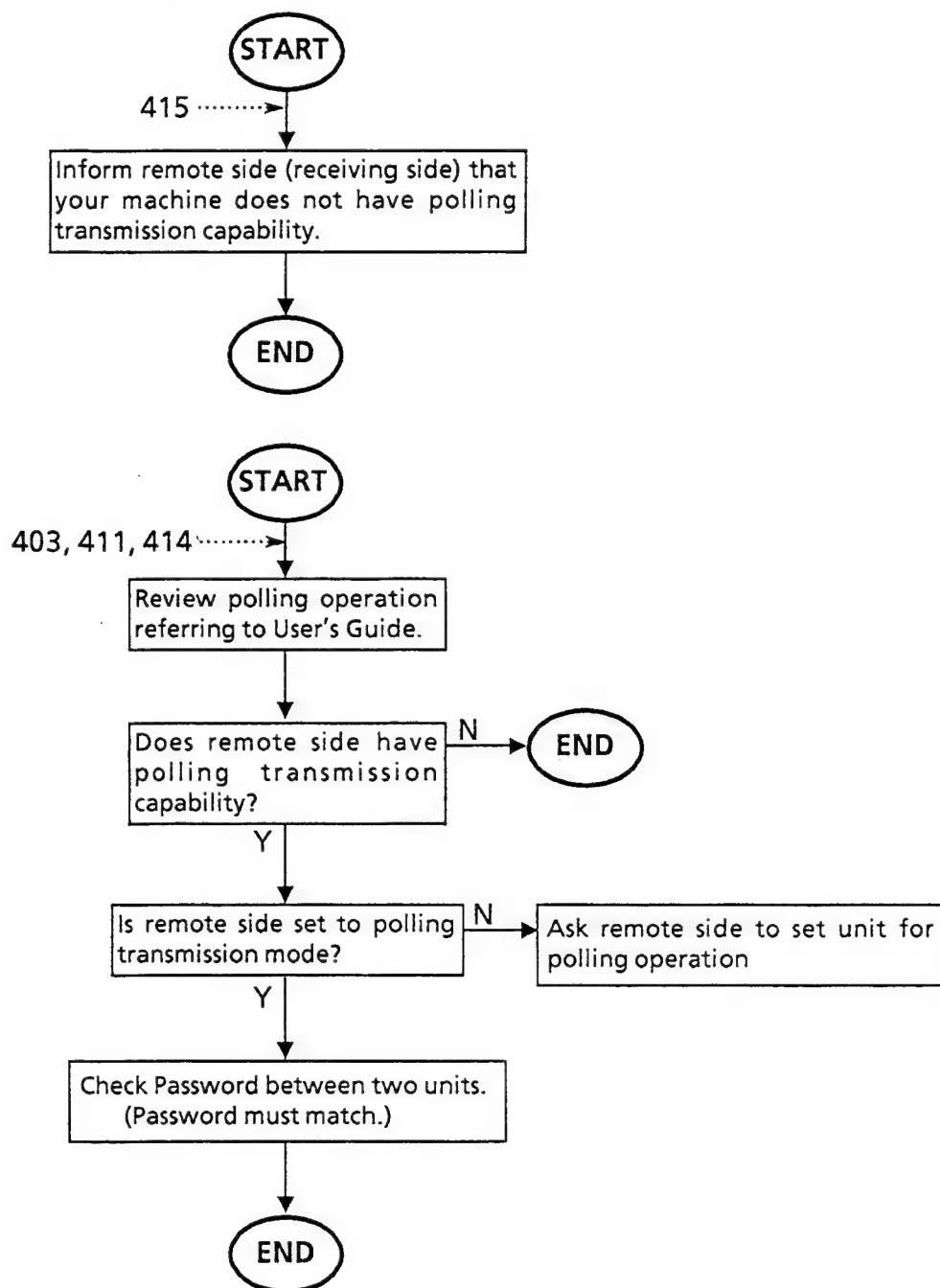
4.11 Printed Copy Quality Poor



4.12 Dialing Error (INFO. Code: 623, 630)



4.13 Polling Operation Trouble (INFO. Code:403, 411, 414, 415)

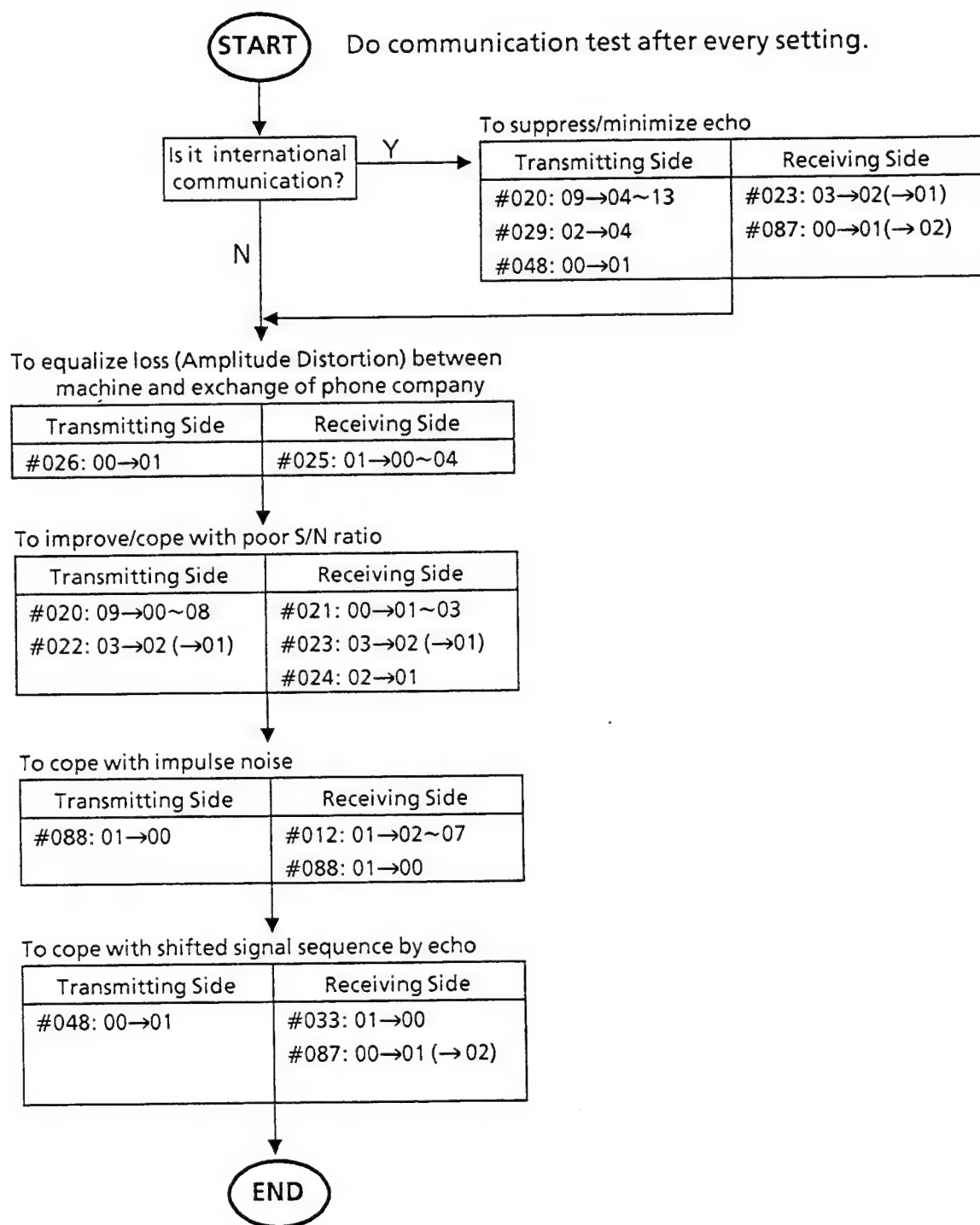


Polling communication with 4-digit password is a Non CCITT Standard feature. Polling communication with password may not be available if the transmitter and receiver are of different manufacturers.

4.14 Communication Trouble

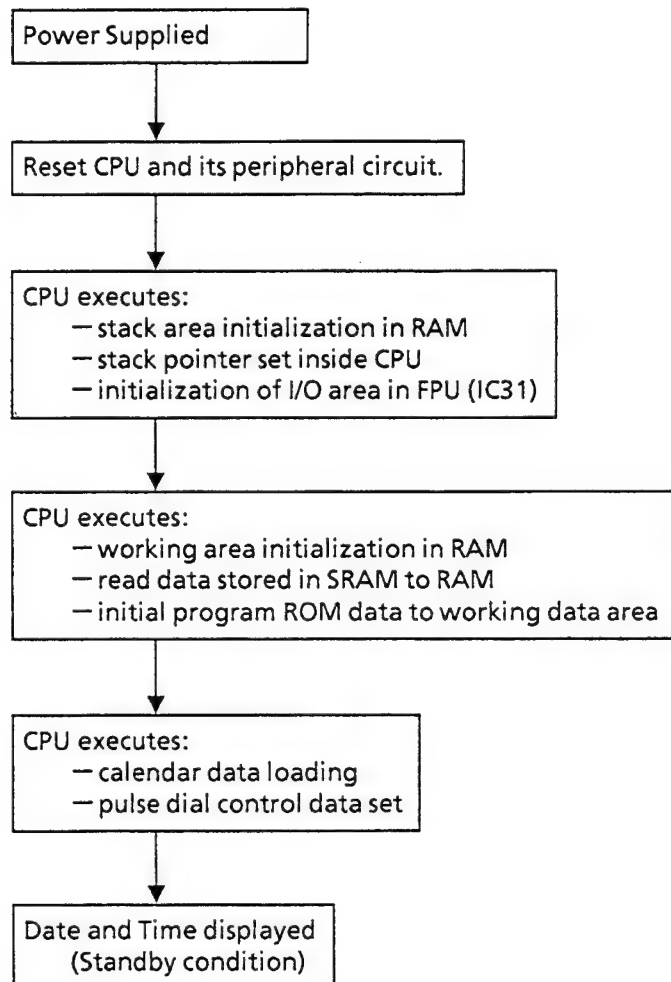
This section explains general trouble shooting for the 400 series of Information Codes. The 400s are mostly caused by poor telephone line quality such as loss, noise, echo etc. The machine is furnished with Test mode 1 to minimize influence from poor line quality.

It is preferred that not only the transmitting machine but also the receiving machine be adjusted. This section gives relevant parameters in Test mode 1 for transmitting and receiving side. Should no improvement be found after parameter adjustment, it is recommended that the parameter be set back to default position.

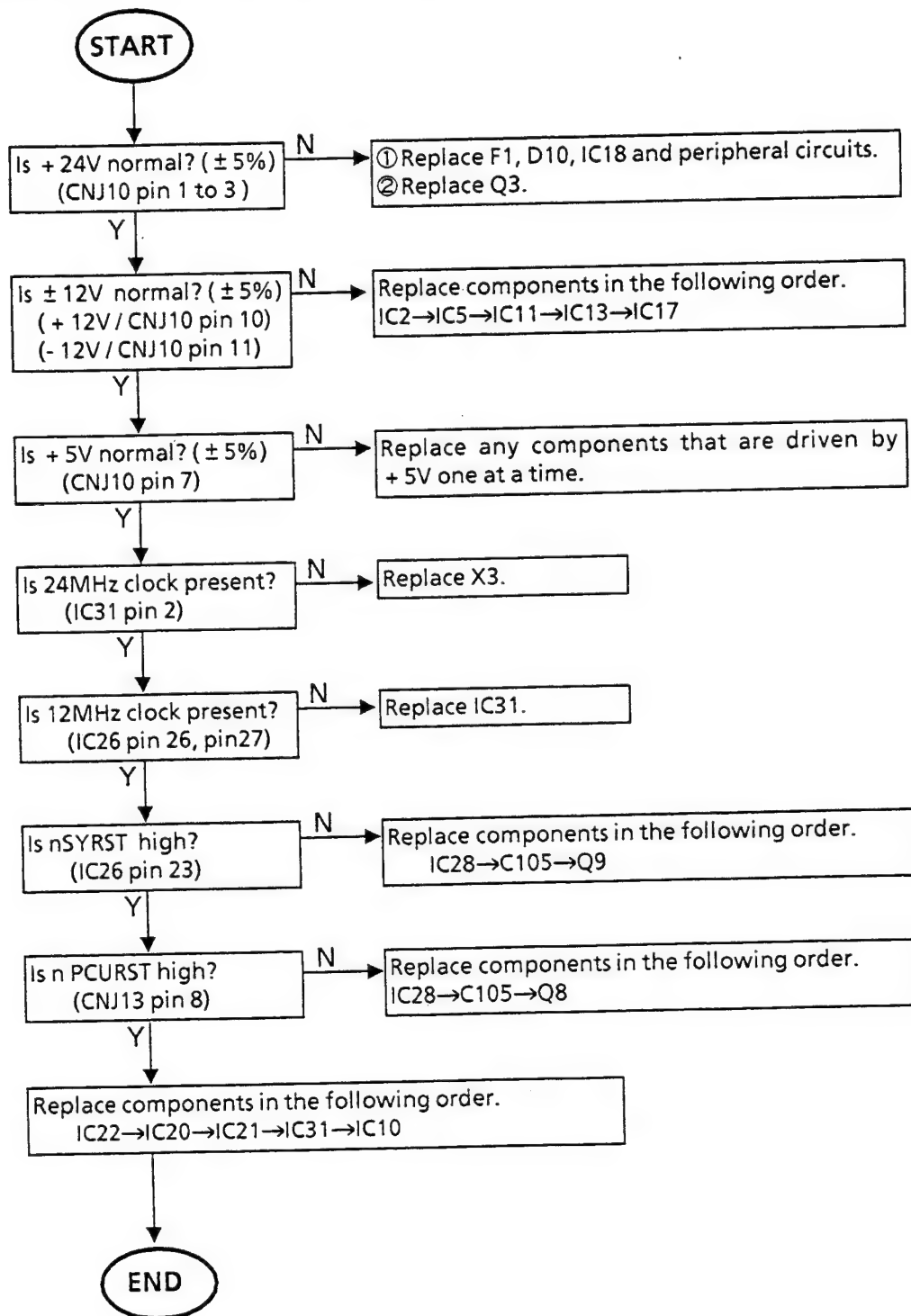


4.15 SC PC Board Defective

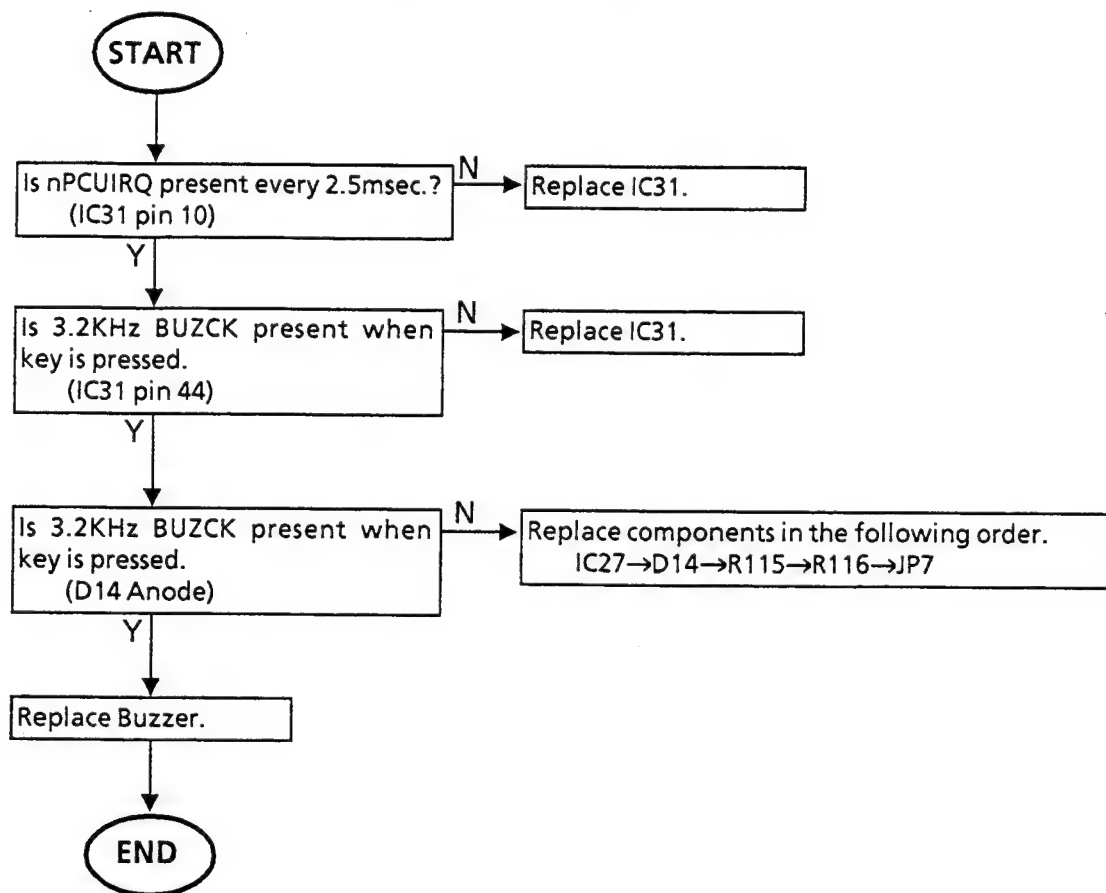
4.15.1 Initialization Sequence (Power On to Date/Time display)



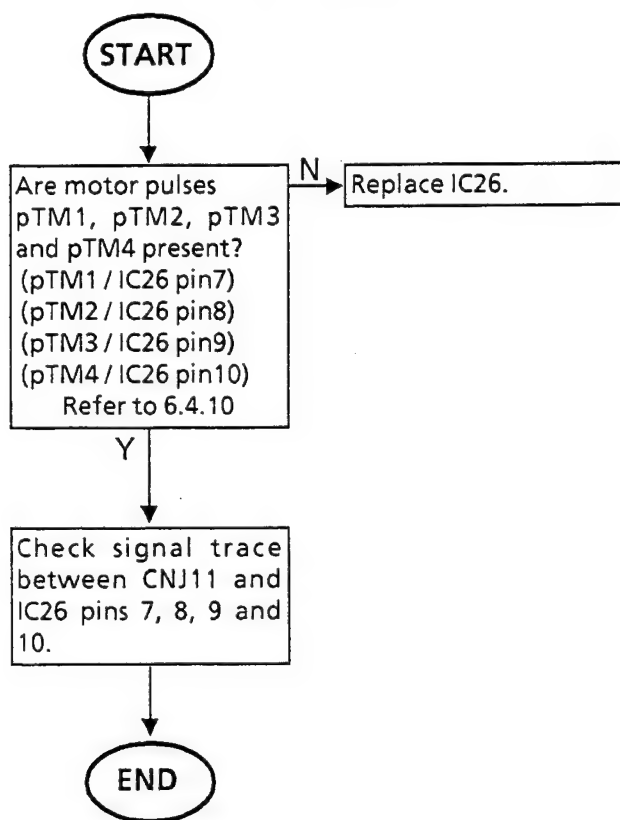
4.15.2 Initialization Not Completed



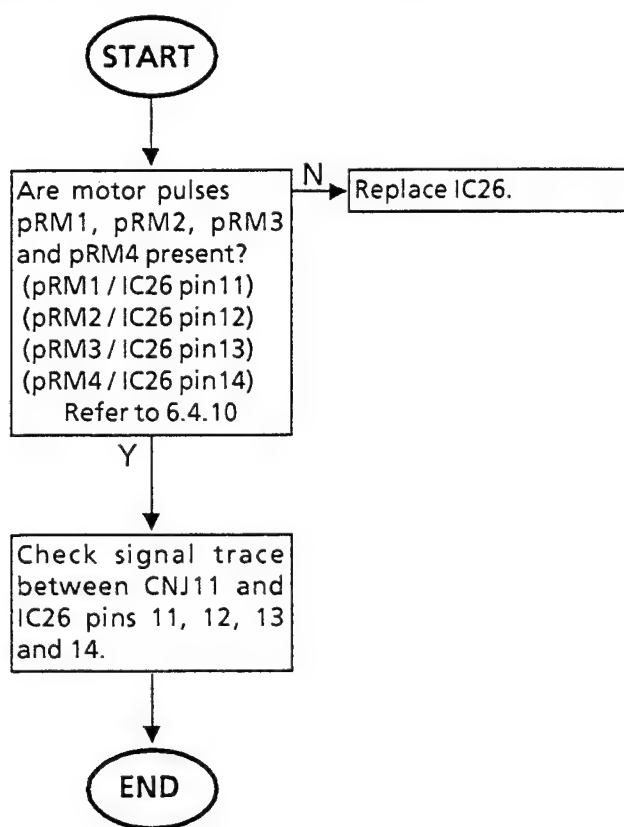
4.15.3 No Key Tone (Panel Not Responding)



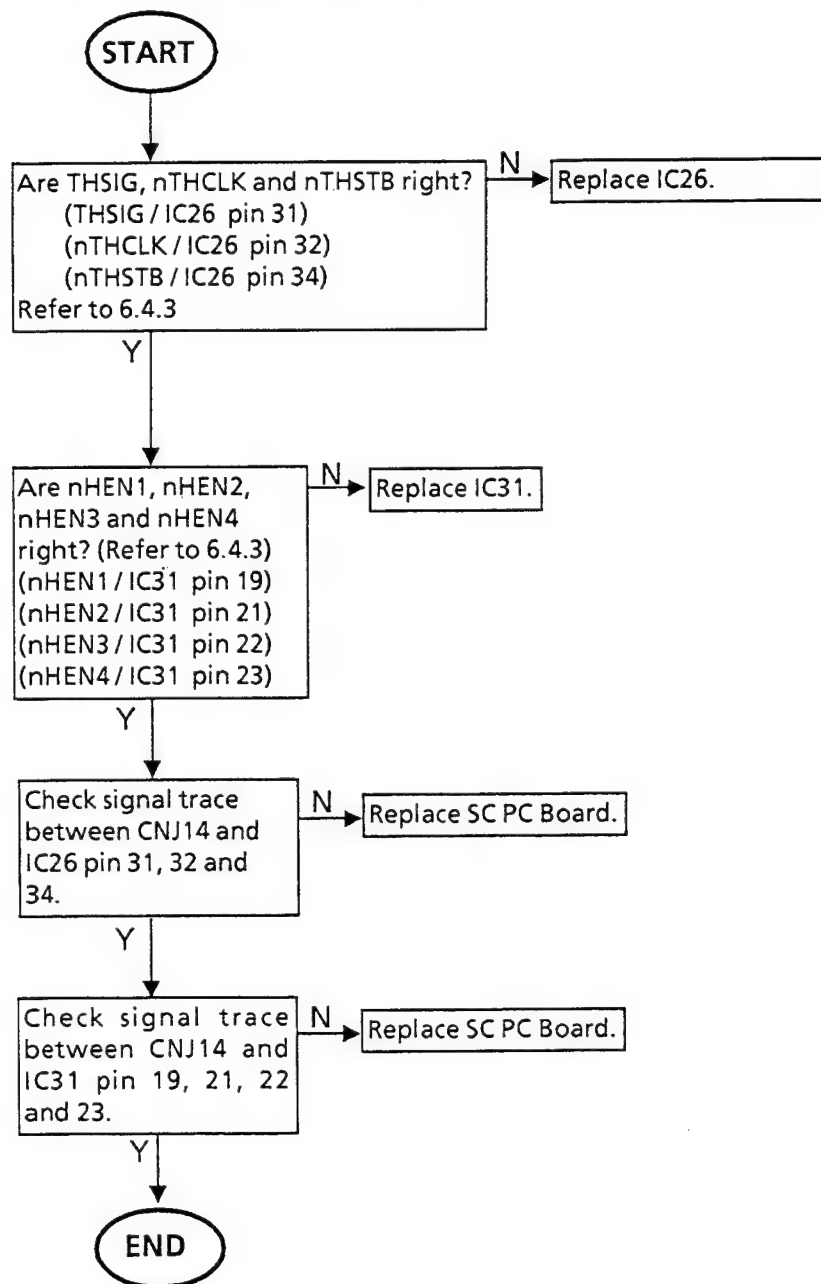
4.15.4 TX Motor Not Rotating



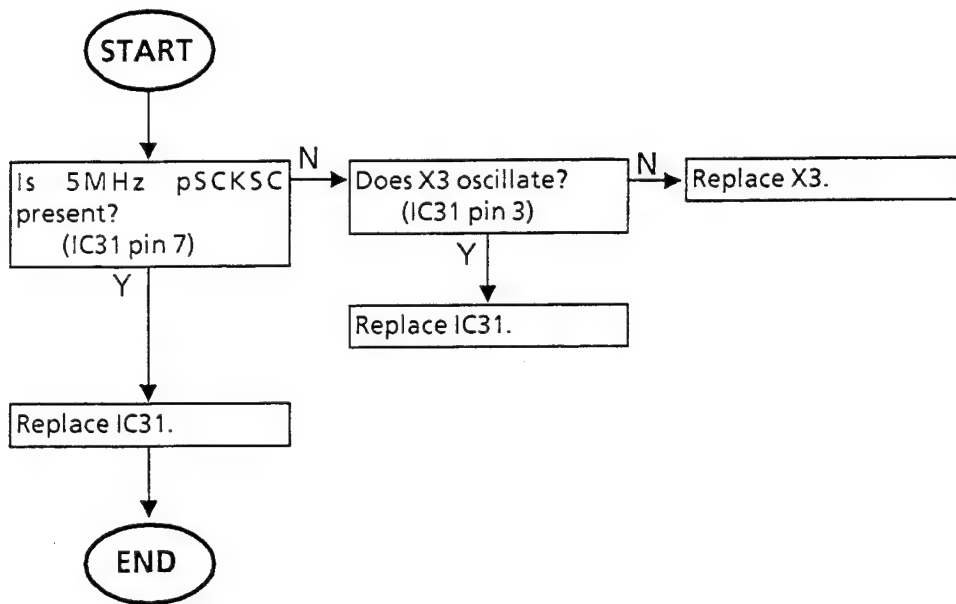
4.15.5 R_X Motor Not Rotating



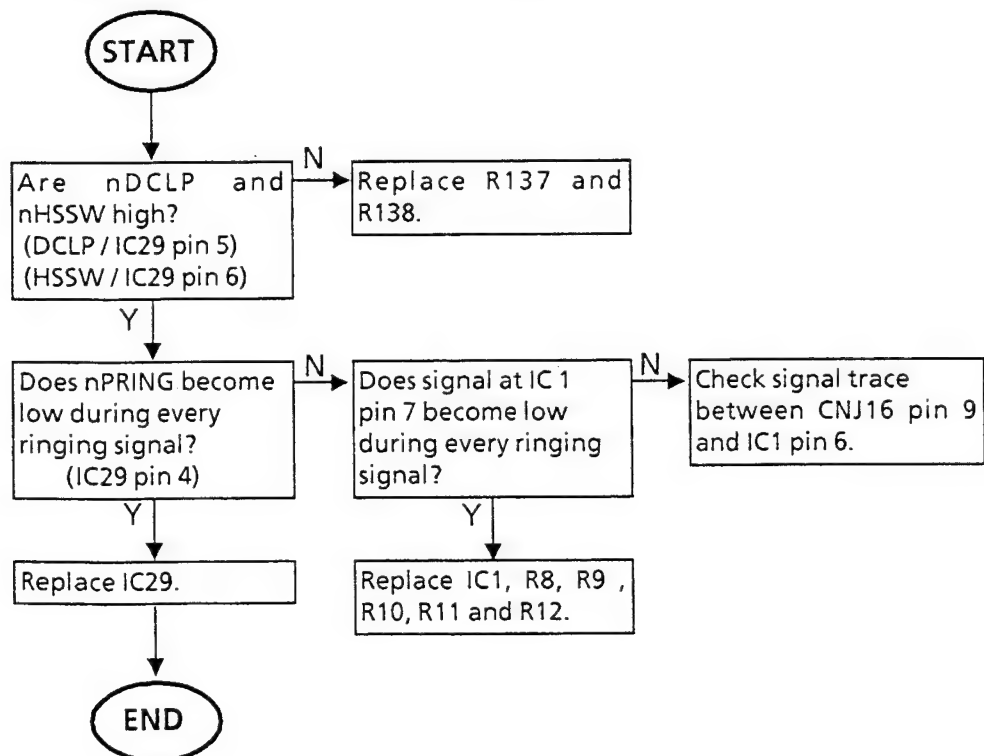
4.15.6 Printed Copy Abnormal



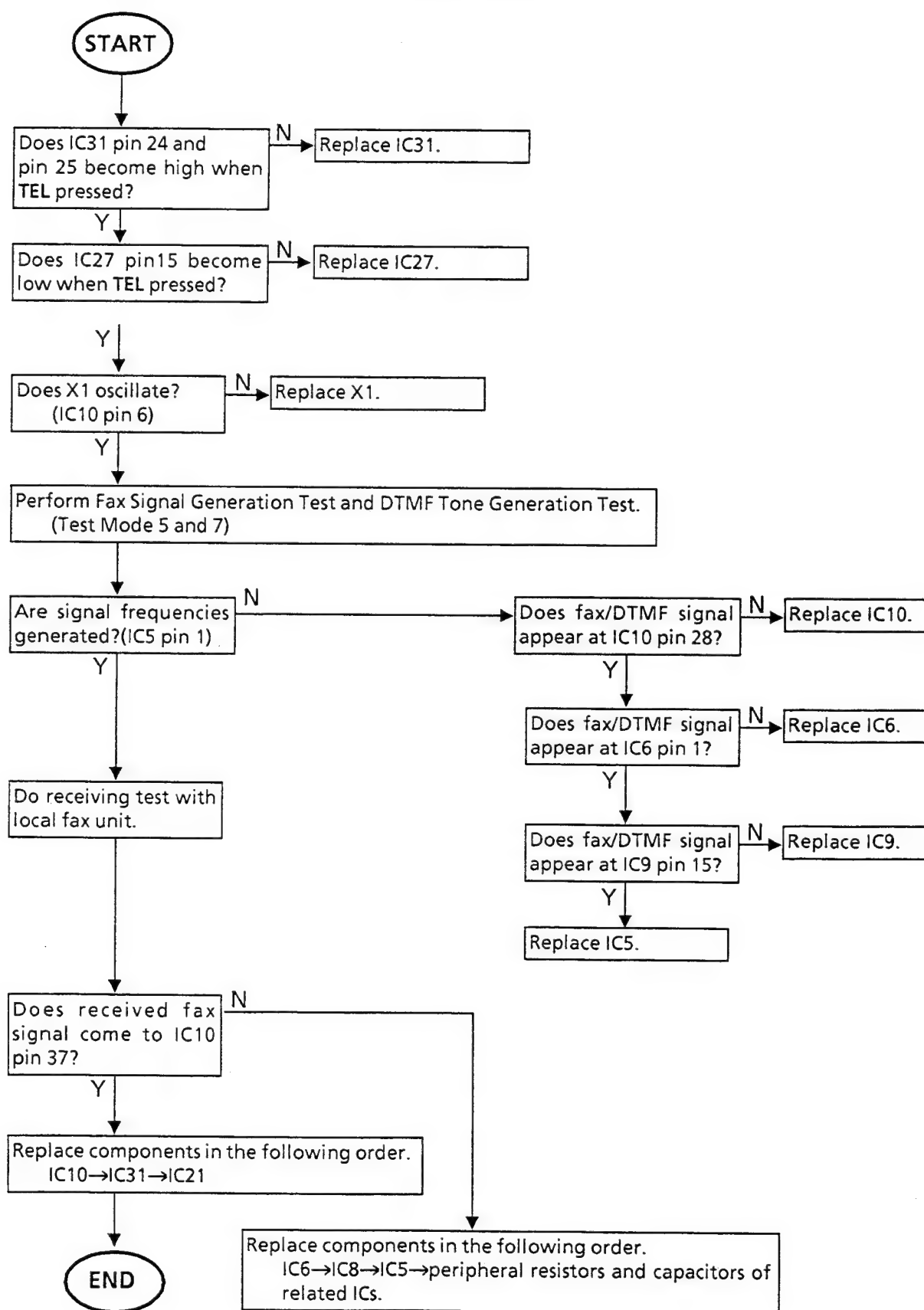
4.15.7 Display Clock Malfunction



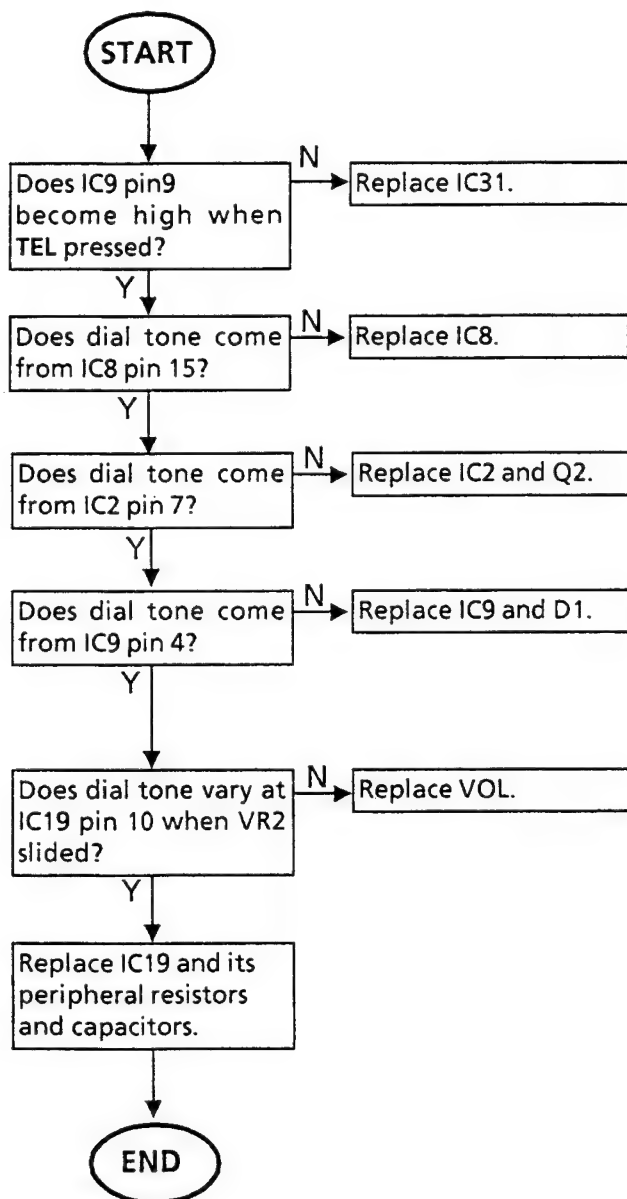
4.15.8 Auto Receiving Not Functioning



4.15.9 Communication Trouble (including Dialing Trouble)

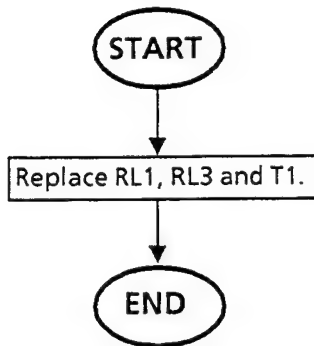


4.15.10 Monitor Not Functioning

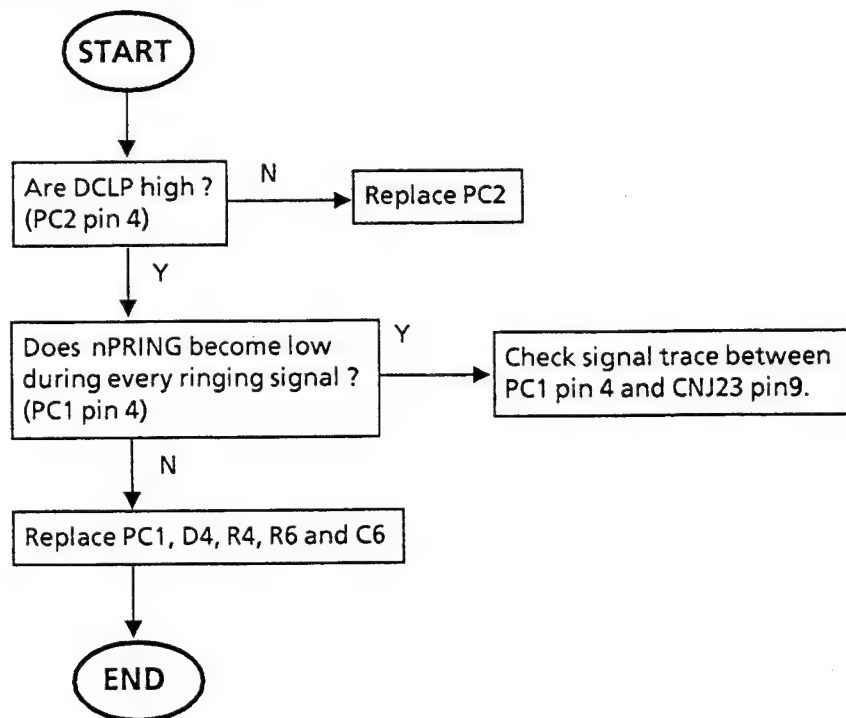


4.15.11 LCU PC Board Defective

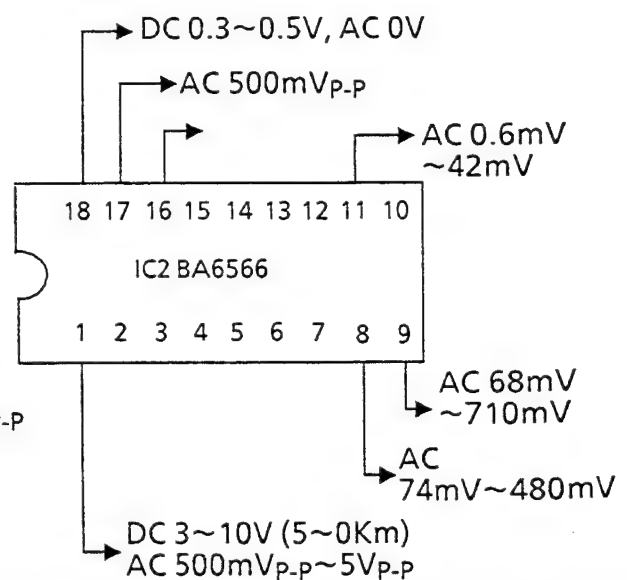
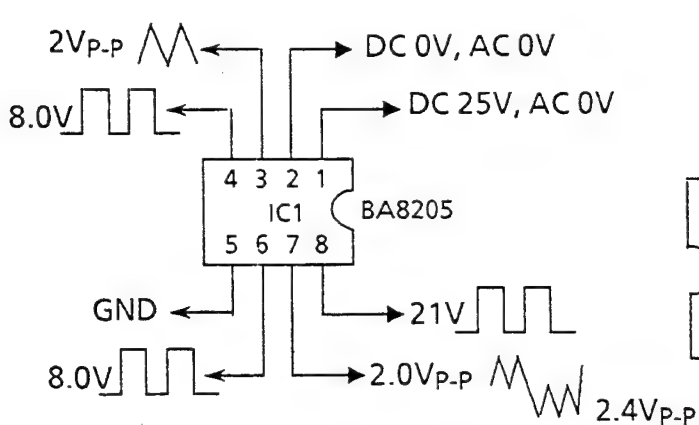
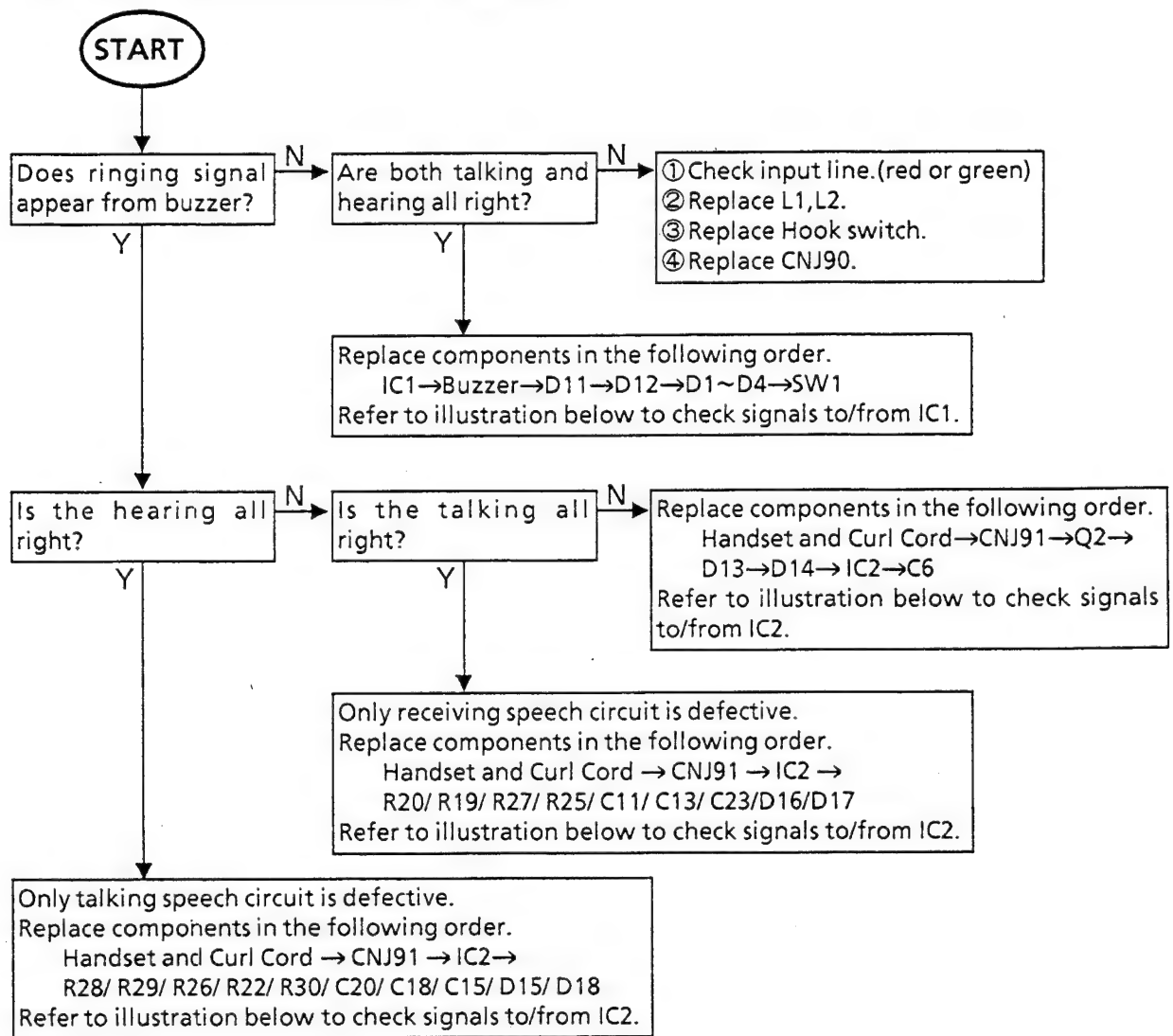
No DC Loop



Auto Receiving Trouble

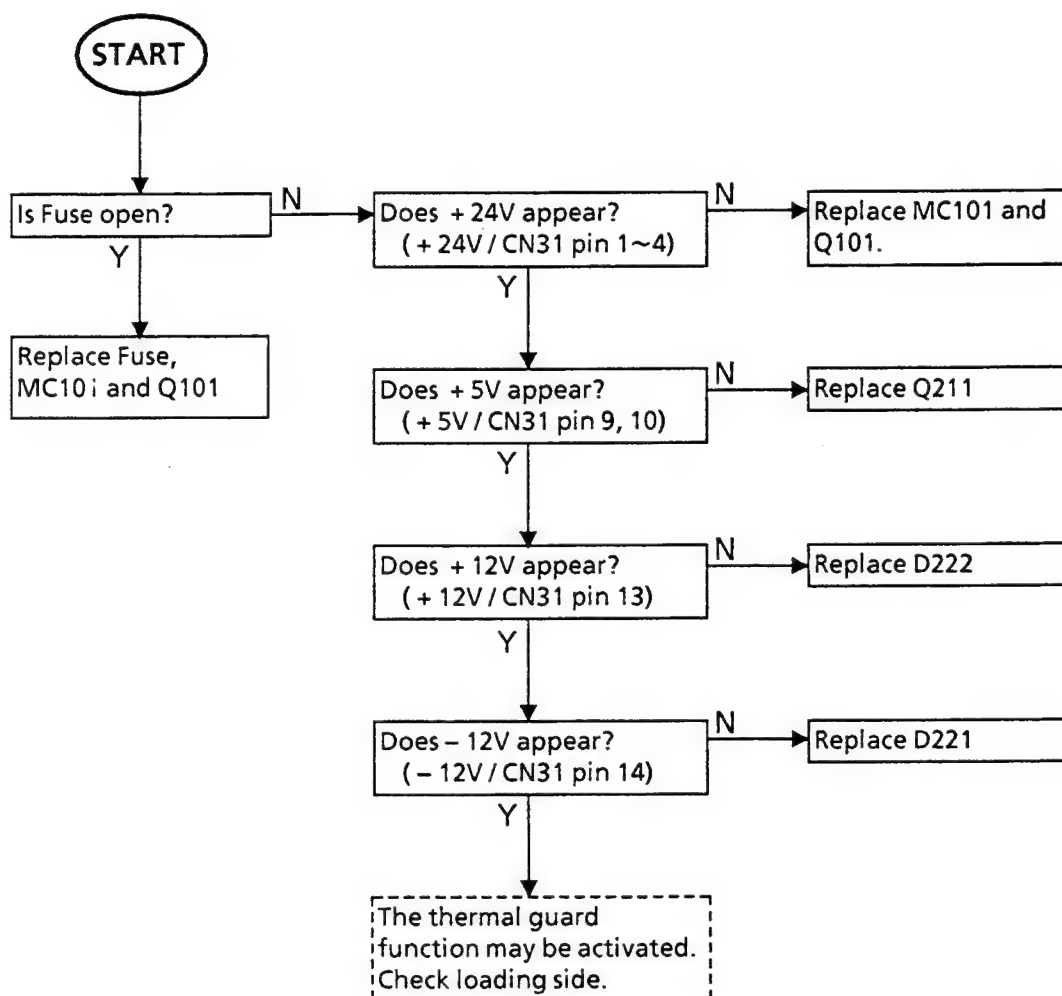


4.16 Handset Defective(SRU PC Board)

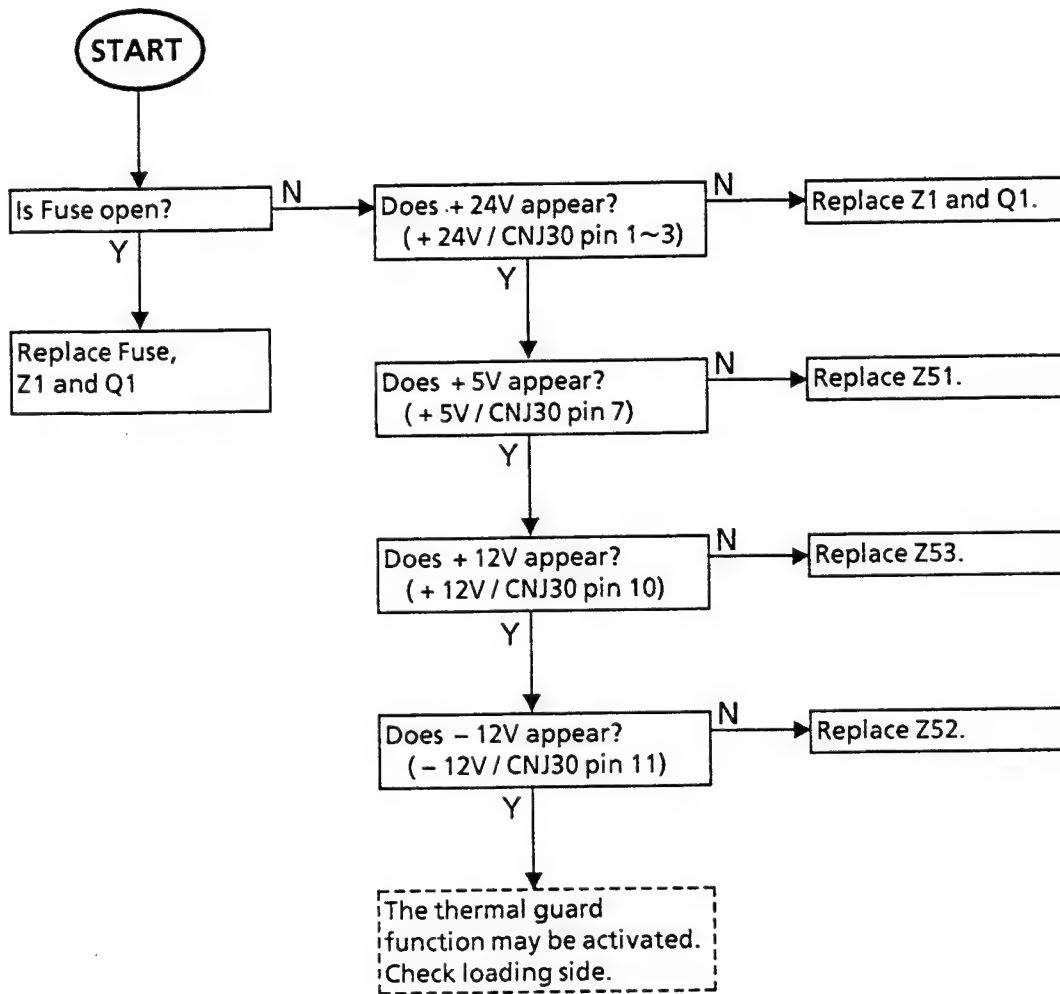


4.17 Power Supply Unit Defective

4.17.1 Matsushita type (ETX-998D8A,ETX-998D8E)



4.17.2 Sanken type (DZZSP24167,DZZSP24172)



4.18 Information Code Table

Information Code Table (1/5)

Code	Mode	Phase	Description of Problem	Cause
001	RX	C	Leading edge of the recording paper fails to reach the EXIT sensor.	Recording Paper : Jammed EXIT Sensor : abnormal Connectors : Not firmly connected
002	RX	C D	Tail edge of the recording paper fails to reach the EXIT sensor.	Recording Paper : Jammed EXIT Sensor : abnormal Connectors : Not firmly connected
003	RX	C D	The Cutter does not move.	The cutter driver circuit has been damaged. - The control IC's (IC18) supply fuse has blown. - The control IC (IC18) has been damaged. - The connecting ribbon cable has been cut.
004	RX	C D	Although cutter moves, it fails to reach the specified position.	Cutter Sensor : abnormal or not properly mounted
010	RCV Copy	B C	No recording paper.	No recording paper or is not properly set. Recording Paper Sensor is defective or is not properly mounted.
020	RCV Copy	C	Thermal Head temperature was too high.	Thermal Head is defective. (due to abnormal power supply) Recording Paper gets jammed. Connectors are not firmly connected.
025	—	—	Power Supply Unit temperature was too high.	Connectors are not firmly connected. Machine printed document with massive black part . It was over loaded. Power Supply Unit is defective.
030	TX	B	Read point Sensor does not come ON within 10 seconds after document feeding	Document not set properly. Defective Read Point Sensor
031	XMT Copy	C	Transmitting document was longer than 1,000 mm.	Document gets jammed. RPS (Read Point Sensor) is defective.
039	XMT Copy	—	RPS is ON when machine is returned to standby.	STOP button was pressed during transmission or copy. Document gets jammed. RPS is defective.
060	—	—	Front Cover is open. Recording Clearance Guide is open.	Cover is not firmly closed/fixed. Connectors are not firmly connected.
400	XMT	B	T1 timer (35 ± 5 sec.) elapsed without detecting 300bps signal.	Wrong number is dialed and START button is depressed. Telephone line is disconnected in the course of dialing. SC (Modem) or LCU is defective. Receiver is defective. (It may transmit only CED.)

Information Code Table (2/5)

Code	Mode	Phase	Description of Problem	Cause
402	XMT	B	DCN was returned from receiver when transmitter waits for NSF/DIS.	Receiver might work in non-CCITT mode only. There is incompatibility.
403	RCV (polling)	B	Transmitter had no polling function.	"POLLED = ON"(polling XMT ready) is not set at transmitter. Document to be transmitted is not placed at transmitter.
404	XMT	B	Transmitter sent NSS (or DCS) followed by TCF three times but receiver did not respond. (CFR or FTT is usually returned.)	Receiver is defective. (Modem, LCU etc.) SC (Modem) or LCU is defective. Receiver disconnects line during first NSS (or DCS) transmitted.
405	XMT	B	Transmitter received FTT after it transmitted TCF at 2400bps.	Line quality is poor. (TCF is damaged due to line noise.) Receiver is defective. (Modem, LCU etc.) SC (Modem) or LCU is defective.
407	XMT	D	Transmitter received no response after it transmitted post message such as EOP, MPS, EOM etc.	Receiver is defective. (no paper, paper jamming etc.) Receiver ceased receiving because of excessive error. (Line quality is poor.) SC (Modem) or LCU is defective.
408	XMT	D	Transmitter received RTN after it transmitted EOP, MPS or EOM.	Receiver receives data with error. (Line quality is poor.) Receiver is defective. (Modem, LCU etc.) SC (Modem) or LCU is defective.
409	XMT	D	Transmitter receives PIN after it transmitted post message such as EOP, MPS, EOM etc.	Receiver receives data with error due to poor line quality, and receiving operator requests voice contact. Receiver is defective. (Modem, LCU etc.) SC (Modem) or LCU is defective.
411	RCV (polling)	B	T1 timer (35 ± 5 sec.) elapsed without detecting any signal after it transmitted NSC (or DTC).	Transmitter is not ready for polling comm. Password does not match between transmitter and receiver.
412	RCV	B D	Receiver did not receive NSS, DCS or MPS within 12 sec. after it returns FTT, CFR or MCF.	Transmitter is defective. (Document gets jammed. SC, LCU or Modem is defective.) Line quality is poor. (TCF at 2400bps is damaged due to line noise.) SC (Modem) or LCU is defective.
414	RCV (polling)	B	Receiver (calling side) received DCN after it transmitted NSC (or DTC).	Password does not match between transmitter and receiver. Transmitter is defective. (no document, document jamming etc.)
416	RCV	D	Receiver did not detect post command such as EOP etc.	Transmitter is defective. Line quality is poor. (RTC signal is broken due to line noise.) SC (Modem) or LCU is defective.

Information Code Table (3/5)

Code	Mode	Phase	Description of Problem	Cause
417	RCV	C	Receiver returned RTN in response to post message.	Line quality is poor. (There are excessive errors in receiving data.) SC (Modem) or LCU is defective.
418	RCV	C	Receiver transmitted PIN in response to PRI-Q from transmitter. (Transmitting operator requests voice contact.)	Line quality is poor. (There are excessive errors in receiving data.) SC (Modem) or LCU is defective.
419	RCV	C	Receiver transmitted PIN in response to post message. (Receiving operator requests voice contact.)	Line quality is poor. (There are excessive errors in receiving data.) SC (Modem) or LCU is defective.
420	RCV	B	T1 timer (35 sec.) elapsed without detecting 300bps signal. (The 420 code is not displayed on panel.)	There is an incoming wrong call. (not for facsimile comm.) Transmitter is defective. SC (Modem) or LCU is defective.
421	RCV	B	T1 timer (35 sec.) elapsed without detecting 300bps signal, after receiver receives EOM (End Of Message).	Transmitter is defective.
422	XMT	B	Content of NSF (or DIS) or NSC (or DTC) was not valid.	There is incompatibility.
427	G3 RX	B	DCN received to NSF / CSI / DIS transmitted.	Interface : incompatible
430	300BPS TX	B	CS does not go ON within 30 seconds after RS is ON.	MODEM : abnormal
432	XMT or Polling RCV	B	CD (response from Modem) did not turn OFF within 35 sec. in the initial routine (T1 timer period)	Line quality is poor. (Noise level is too high.) SC (Modem) or LCU is defective.
434	XMT or RCV	B	CD (response from Modem) did not turn OFF within 180 sec. after receiver detected FLAG signal.	Remote unit is defective. SC (Modem) or LCU is defective.
436	RCV	C	Receiver received DCN instead of high speed data. Receiver received DCN after it returns FTT.	Line quality is poor. (TCF sequence is not completed.) Transmitter is defective.
458	RCV	C	CD (response from Modem) became OFF more than 10 sec. during fax message data reception.	Transmitter is defective. (Document jamming) Line is disconnected. SC (Modem) or LCU is defective.
459	RCV	C	Receiver could not complete training sequence within 10 sec. in beginning of Phase C.	Line quality is poor. (Training signal is damaged due to line noise.) SC (Modem) or LCU is defective.
490	RCV	C	Sum of error line exceeded the limit (parameter 012) by 64 lines.	Line quality is poor. SC (Modem) or LCU is defective.
492	RCV	C	Reception data buffer remains empty for at least 10 sec.	Transmitter is defective. SC (Modem) or LCU is defective.
493	RCV	C	The first EOL in phase C was not detected within 10 sec.	Transmitter is defective. (Document jamming) SC or LCU is defective.

Information Code Table (4/5)

Code	Mode	Phase	Description of Problem	Cause
494	RCV	C	Interval between two EOLs was more than 10 sec. when receiver received message data.	Transmitter is defective. Line quality is poor. (EOL is damaged due to line noise.) SC (Modem) or LCU is defective.
495	RCV	C	CD turned OFF during receiver received message data.	Line is disconnected. Transmitter is defective. SC (Modem) or LCU is defective.
540	TX	C	No response to CTC transmitted three times.	Line: faulty SC (Modem) or LCU is defective.
541	TX	C	No response to EOR transmitted three times.	Line: faulty SC (Modem) or LCU is defective.
542	TX	C	No response to RR transmitted three times.	A remote unit: abnormal
543	TX	C	T5 seconds elapsed without MCF.	A remote unit: abnormal
544	TX	C	Stopped Transmission after EOR Transmission.	Line: faulty SC (Modem) or LCU is defective.
550	RX	C	Following frame not detected in T1 time.	TX side disconnected line.
552	RX	C	RR not detected in 12 seconds after RNR Transmission.	A remote unit: abnormal
553	RX	C	Detected DCN under abnormal ending (except 554, 555)	A remote unit: abnormal or STOP SW was pressed at remote unit.
554	RX	C	DCN received after ERR Transmission.	Line: faulty
555	RX	C	PIN transmitted after EOR reception.	Line faulty and Operator Call requested by RX side.
623	XMT	B	No document was on document feeder. (built-in dialer engaged.)	Operator removes document from document feeder after dialing is completed. Document is not properly placed on document feeder.
630	XMT or RCV (polling)	B	In communication to single station, redialing was repeated up to specified times (parameter 057) but line was not through or no signal from remote unit was returned.	Dial tone is not detected. Second dial tone is not detected. (depending on country) Busy tone is detected. (depending on country) T1 timer (35 ± 5 sec.) elapsed without receiving a signal from receiver.
632	TX or polling		Detected off hook when ringing.	Telephone handset was picked up before fax answered.
633	Multi-Station polling	—	Redial error : last redial failed	No response
870	Multi-Station XMT Multi-copy	—	Memory overflow	Documents were stored over memory capacity.

Information Code Table (5/5)

Code	Mode	Phase	Description of Problem	Cause
877	Power ON	—	Memory error	Failure of document memory at initial check.
879	Multi-Station XMT	—	Memory directory overflow, or one file exceeds 99 sheets.	Document stored were over the memory specifications.

4.19 Diagnostic Code

The 12-digit Diagnostic Code is provided for the service engineer to analyze how communication is performed. The code is printed on the Individual Transmission Journal.

Example of Individual Transmission Journal

***** - JOURNAL - ***** DATE 30-1-1992**** TIME 09:39 *****							
COM	PAGES	DURATION	X/R	IDENTIFICATION	DATE	TIME	DIAGNOSTIC
OK	01	00:00'42	XMT	123 456 789	30-1	01:55	802480AE0008
						1st digit	12th digit
						Diagnostic Code	
***** - 01234567890123456789 - *****							

1st Digit

Data	Definition				
	DCN	STOP Button	Voice Contact	Built-in Dialer	
0	—	—	—	—	
1	received	—	—	—	
2	—	pressed	—	—	
3	received	pressed	—	—	
4	—	—	requested	—	
5	received	—	requested	—	
6	—	pressed	requested	—	
7	received	pressed	requested	—	
8	—	—	—	used	
9	received	—	—	used	
A	—	pressed	—	used	
B	received	pressed	—	used	
C	—	—	requested	used	
D	received	—	requested	used	
E	—	pressed	requested	used	
F	received	pressed	requested	used	

— : Not used/defined

2nd Digit

Data	Definition				
	Receive Start	ID (TSI or CSI)			
0	—	—			
1	automatic	—			
2	manual	—			
4	—	received			
5	automatic	received			
6	manual	received			
8	—	—			
9	automatic	—			
A	manual	—			
C	—	received			
D	automatic	received			
E	manual	received			

— : Not used/defined

3rd Digit

Data	Definition				
	Short Protocol				
0	—				
1	—				
2	used				
3	used				
8	—				
9	—				
A	—				
B	—				

— : Not used/defined

4th Digit

Data	Definition				
	Polling RCV	RCV	XMT		
0	—	—	—		
1	used	—	—		
2	—	used	—		
3	used	used	—		
4	—	—	used		
8	—	—	—		
9	used	—	—		
A		used	—		
B	used	used	—		
C	—	—	used		

— : Not used/defined

5th Digit

Data	Definition				
	G3 Standard	G3 Non-standard	CCITT ECM		
0	—	—	—		
1	—	—	—		
2	—	—	—		
3	—	—	—		
4	used	—	—		
5	used	—	used		
8	—	used	—		
9	—	used	used		

— : Not used/defined

6th Digit

Data	Definition				
0	Not Assigned	—	—	—	

— : Not used/defined

7th Digit

Data	Definition				
	Resolution	Coding			
0	—	—			
2	STD	MH			
4	FINE	MH			
6	Super FINE	MH			
8	—	—			
A	STD	MR			
C	FINE	MR			
E	Super FINE	MR			

— : Not used/defined

8th Digit

Data	Definition				
	MWS Type II	Data Speed			
0	—	2400 bps			
1	—	2400 bps			
2	used	2400 bps			
3	—	2400 bps			
4	—	4800 bps			
5	—	4800 bps			
6	used	4800 bps			
7	—	4800 bps			
8	—	7200 bps			
9	—	7200 bps			
A	used	7200 bps			
B	—	7200 bps			
C	—	9600 bps			
D	—	9600 bps			
E	used	9600 bps			
F	—	9600 bps			

— : Not used/defined

9th Digit

Data	Definition				
	Scanning Rate				
0	20 msec/line				
1	5 msec/line				
2	10 msec/line				
3	—				
4	40 msec/line				
5	—				
6	—				
7	20 msec/line				

— : Not used/defined

10th Digit

Data	Definition				
	Recording Paper Length				
0	A4 (cut sheet)				
8	No limit (roll)				

11th Digit

Data	Definition				
	CCITT ECM				
0	—				
2	used				

— : Not used/defined

12th Digit

Data	Definition				
	MWS Type 1 or Type 2 (White Line Skip)				
0	—				
4	used				
8	used				
C	used				

— : Not used/defined

Chapter 5

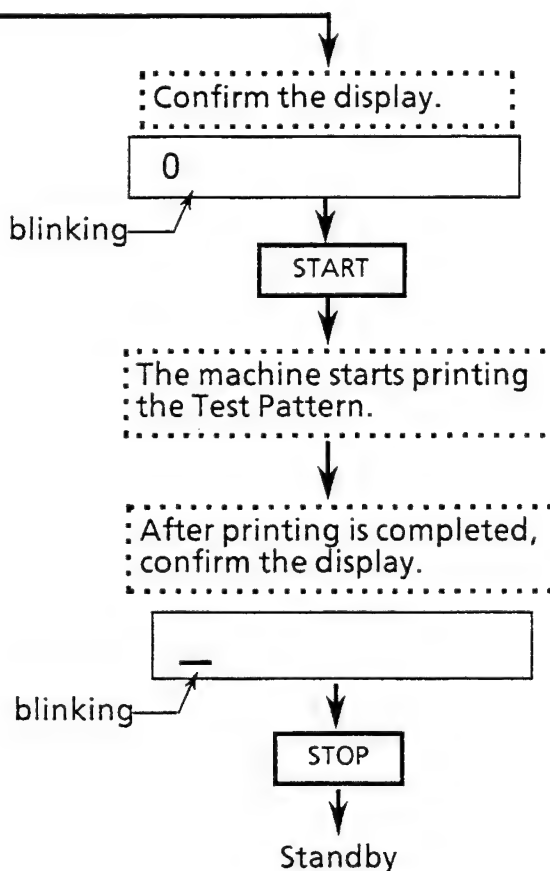
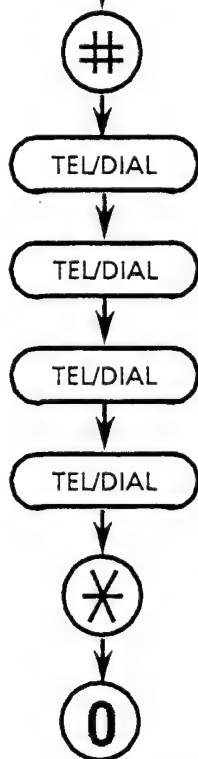
Test Modes

5.1	Test Mode 0	(Test Pattern Printout)	5 - 2
5.2	Test Mode 1	(Function Parameter Setting)	5 - 3
5.3	Test Mode 2	(RAM Data Setting)	5 - 12
5.4	Test Mode 3	(RAM Data Printout)	5 - 12
5.5	Test Mode 4	(CCD Test)	5 - 15
5.6	Test Mode 5	(Fax Signal Generation)	5 - 16
5.7	Test Mode 6	(RAM Initialization & Display Test)	5 - 17
5.8	Test Mode 7	(DTMF Signal Generation)	5 - 18
5.9	Test Mode 9	(RAM Test)	5 - 19
5.10	Test Mode *	(ID Set)	5 - 20

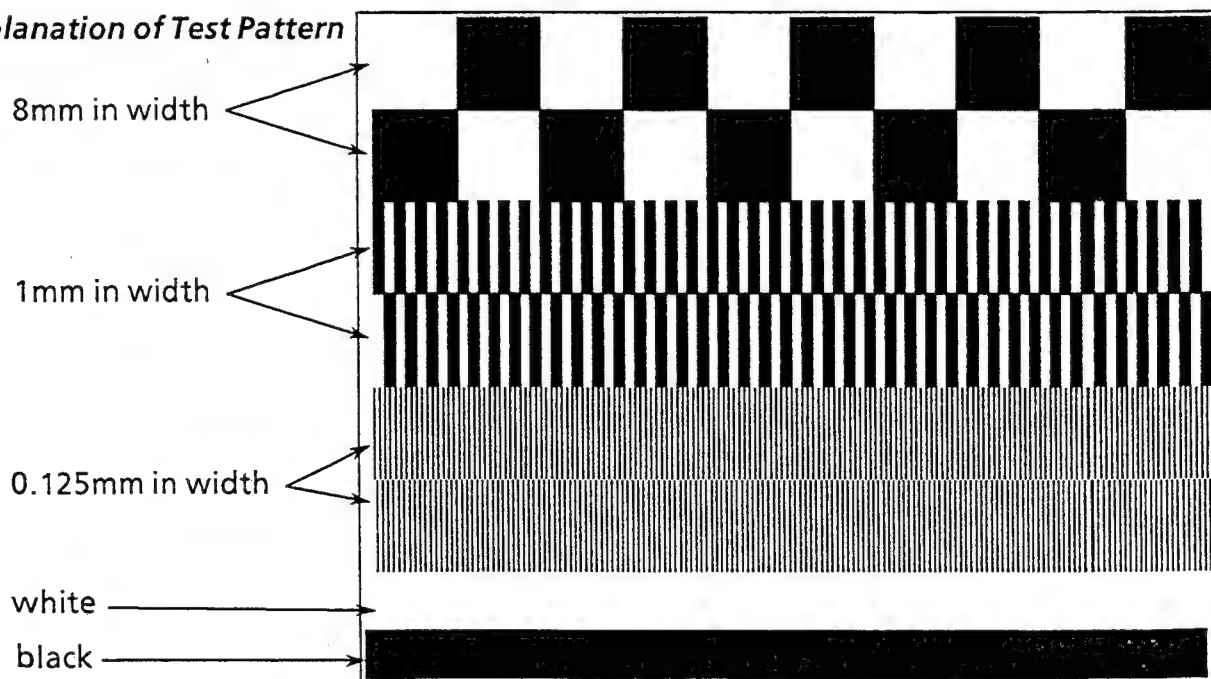
5.1 Test Mode 0

Name	--- Test Pattern Printout
Purpose	--- Check if the recording circuit and the recording paper feeding mechanism work properly.
Operation	--- Perform the following operation.

Confirm that the unit is at standby.
(Date/Time is displayed.)



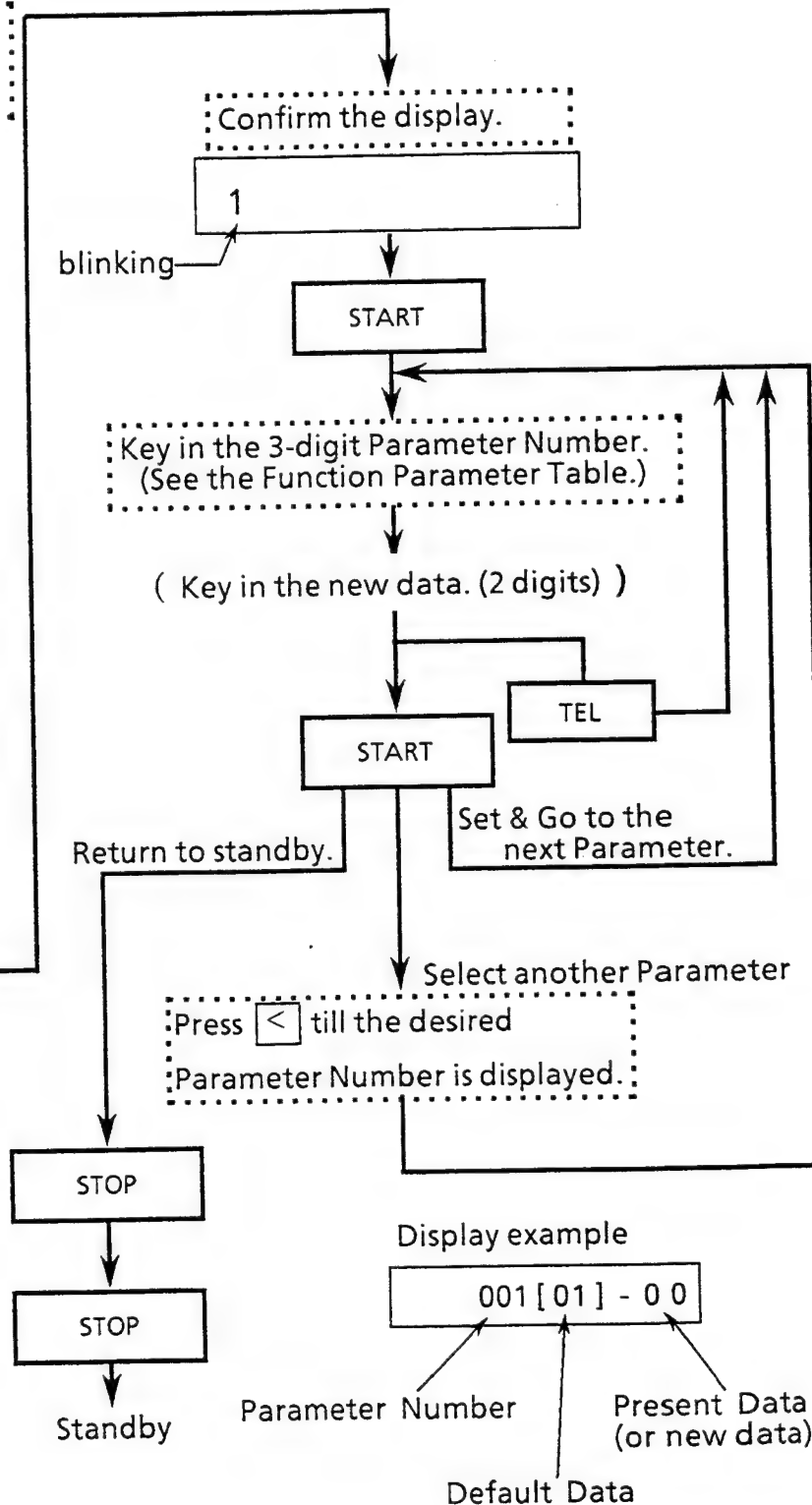
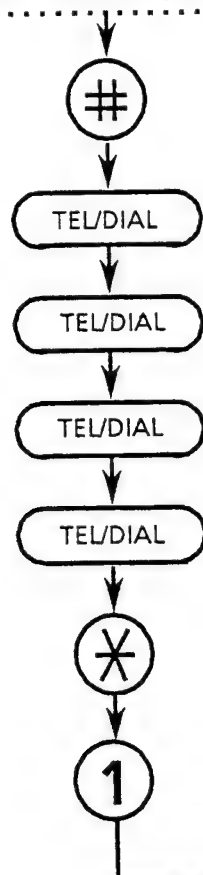
Explanation of Test Pattern



5.2 Test Mode 1

Name	--- Function Parameter Setting.
Purpose	--- Change the home position of parameter for user. Set the home position in accordance with telephone line quality etc.
Operation	--- Perform the following operation.

Confirm that the unit is
at standby.
(Date/Time is displayed.)



Note: The present data column may show 99 when invalid data has been set through Test Mode 2.

Function Parameter Table (1/8)

No.	Function	Default Data	Selection	
			Data	Description
000	Resolution in transmission (Home position for RESOLUTION button)	01	01	STD (3.85 lines/mm)
			02	Fine (7.7 lines/mm)
			03	Super Fine (15.4 lines/mm)
001	Document Contrast (Home position for ORIGINAL button)	01	00	Light
			01	Normal
002	Verification Stamp (Home position)	01*	00	Off
			01	On
003	Not used			
004	Protocol (Home position)	00	00	AMS
			01	G3
005	Header print & print position	02*	00	Not printed
			01	Outside of top edge of document
			02	Inside of top edge of document
006	Received total page print & print position	02*	00	Not printed
			01	Outside of bottom edge of document
			02	Inside of bottom edge of document
007	Maximum document length (Jam detection)	00	00	Approx. 1m
			01	No limit (jam detection disabled)
008	Receive TSI print	00	00	Not printed
			01	Print for G3 STD mode only
			02	Always print
009	Recording paper cut	01	00	With leading edge cut
			01	Without leading edge cut
			02	Not cut
010	Not used			
011	Resolution in copy mode (Home position for COPY button)	02	01	STD (3.85 lines/mm)
			02	Fine (7.7 lines/mm)
			03	Super Fine (15.4 lines/mm)
012	Error line counter (Maximum permissive error lines)	01	00	32 lines
			01	64 lines
			02	96 lines
			03	128 lines
			04	160 lines
			05	192 lines
			06	224 lines
			07	255 lines

* This default value varies with the country.

Function Parameter Table (2/8)

No.	Function	Default Data	Selection	
			Data	Description
013	Allowable percentage of error lines	01*	00	5%
			01	10%
			02	15%
			03	20%
014	Allowable number of continuous error lines	00*	00	3 lines (STD) 6 lines (Fine) 12 lines (Super Fine)
			01	5 lines (STD) 10 lines (Fine) 20 lines (Super Fine)
			02	8 lines (STD) 16 lines (Fine) 32 lines (Super Fine)
			03	10 lines (STD) 20 lines (Fine) 40 lines (Super Fine)
015	Error detection condition	00*	00	Total number of error lines
			01	Error line percentage and continuous error line number
016	Individual Transmission Journal & Call-Back Message print (INDV--Individual journal) (Call---Call-Back message)	02*	00	INDV not printed & Call not printed
			01	INDV printed & Call not printed
			02	INDV not printed & Call printed
			03	INDV printed & Call printed
017	Automatic Journal print	01	00	No
			01	Yes
018 ~ 019	Not used			

* This default value varies with the country.

Function Parameter Table (3/8)

No.	Function	Default Data	Selection	
			Data	Description
020	Transmission attenuator (Output level)	10*	00	0 dB (Output level : 0dBm)
			01	1 dB (: - 1dBm)
			02	2 dB (: - 2dBm)
			03	3 dB (: - 3dBm)
			04	4 dB (: - 4dBm)
			05	5 dB (: - 5dBm)
			06	6 dB (: - 6dBm)
			07	7 dB (: - 7dBm)
			08	8 dB (: - 8dBm)
			09	9 dB (: - 9dBm)
			10	10 dB (: -10dBm)
			11	11 dB (: -11dBm)
			12	12 dB (: -12dBm)
			13	13 dB (: -13dBm)
			14	14 dB (: -14dBm)
			15	15 dB (: -15dBm)
021	Reception attenuation (Receiving sensitivity)	00*	00	0 dB (Sensitivity : -43 dBm)
			01	5 dB (: -38 dBm)
			02	10 dB (: -33 dBm)
			03	15 dB (: -28 dBm)
022	Initial transmission Modem speed (G3)	03	00	2400 bps
			01	4800 bps
			02	7200 bps
			03	9600 bps
023	Initial reception Modem speed (G3)	03	00	2400 bps
			01	4800 bps
			02	7200 bps
			03	9600 bps
024	TCF check timing (TCF --- Training Check Frame) (F---Front ignoring time) (C---Checking time)	02	00	F = 100 msec. & C = 1000 msec.
			01	F = 100 msec. & C = 1200 msec.
			02	F = 200 msec. & C = 1000 msec.
			03	F = 200 msec. & C = 1200 msec.
025	Reception equalizer	01	00	0 km
			01	6.0 km
			02	7.2 km
			03	13.2 km
026	Transmission equalizer	00	00	0 km
			01	7.2 km
027 ~ 028	Not used			

* This default value varies with the country.

Function Parameter Table (4/8)

No.	Function	Default Data	Selection	
			Data	Description
029	EP tone for transmission at 9600/7200 bps (EP --- Echo Protect)	00	00	None
			01	Added in Phase C only when transmitting to Panafax Model
			02	Added in Phase B & C only when transmitting to Panafax Model
			03	Added in Phase C regardless of receiver type (Does not conform to CCITT)
			04	Added in Phase B & C regardless of receiver type (Does not conform to CCITT)
030	CED frequency (CED --- Called station)	00	00	2100Hz
			01	1100Hz (Does not conform to CCITT)
031	Not used			
032	Panasonic (Panafax) function (Non-Standard function)	00	00	Enabled
			01	Disabled (Only CCITT standard function available)
033	CSI transmission (CSI --- Receiver's ID)	01	00	Disabled
			01	Enabled
034	TSI / CIG transmission (TSI --- Transmitter's ID) (CIG --- Receiver's ID in polling mode)	06	00	TSI --- Not transmitted CIG --- Not transmitted
			01	TSI --- Not transmitted CIG --- Transmitted
			02	TSI --- Transmitted CIG --- Not transmitted
			03	TSI --- Transmitted CIG --- Transmitted
			04	TSI --- Not transmitted CIG --- Transmitted only when CSI detected
			05	TSI --- Transmitted only when CSI detected CIG --- Not transmitted
			06	TSI --- Transmitted only when CSI detected CIG --- Transmitted only when CSI detected
035	Polling password check	00	00	Checked
			01	Not Checked

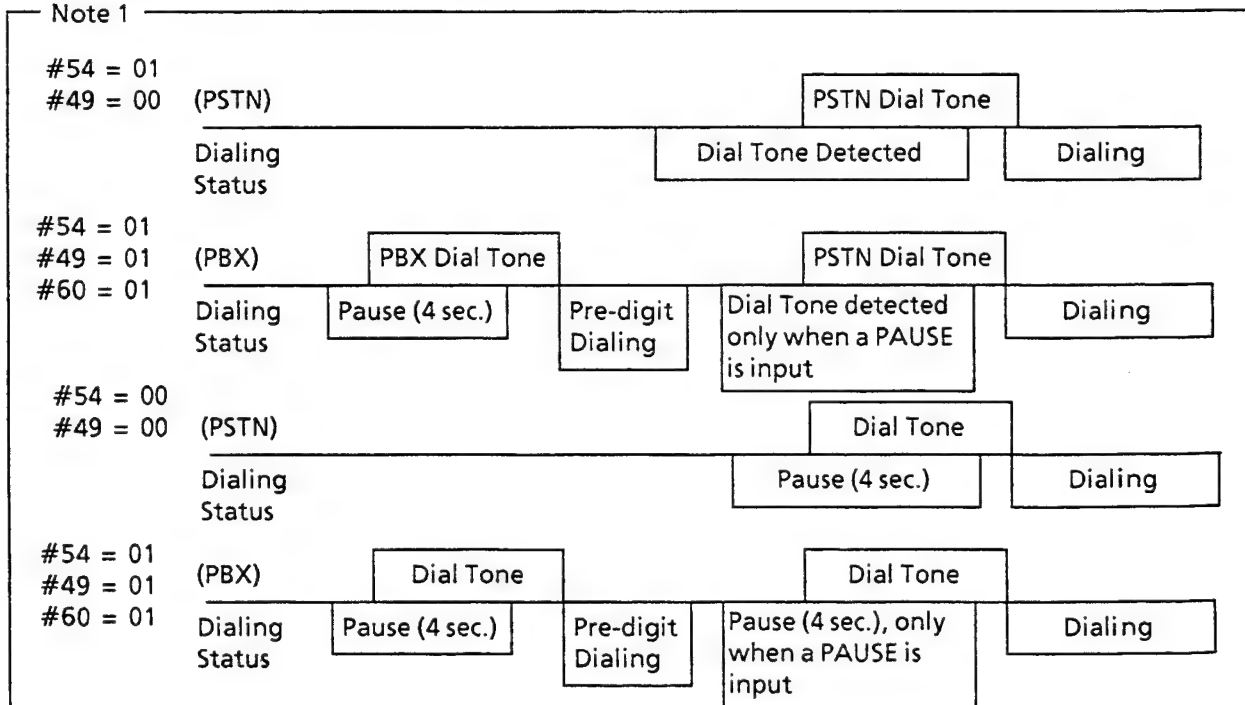
* This default value varies with the country.

Function Parameter Table (5/8)

No.	Function	Default Data	Selection	
			Data	Description
036 ~ 043	Not used			
044	Off-Hook condition	00	00	Checked
			01	Not checked (for back to back test)
045	Remote Diagnostic Capability	01	00	Disabled
			01	Enabled
046 ~ 047	Not used			
048	Communication start-up (XMT & Polling RCV)	00	00	Upon detection of first NSF/CSI/DIS
			01	Upon detection of second NSF/CSI/DIS (first NSF/CSI/DIS discarded)
049	Direct exchange/PBX selection (See Note 1)	00	00	Direct exchange (PSTN)
			01	PBX
050	Dialing Mode	00*	00	Pulse Dialing (10 pps)
			01	Pulse Dialing (20 pps)
			02	Tone Dialing (DTMF)
051 ~ 052	Not used			
053	Busy tone detection	00*	00	Not detected
			01	Detected

* This default value varies with the country.

Note 1

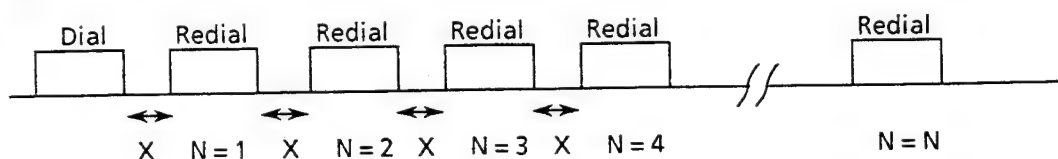


Function Parameter Table (6/8)

No.	Function	Default Data	Selection	
			Data	Description
054	Dial tone detection (See Note 1)	00*	00	Not detected
			01	Detected
055	Interval between redials	03	00	30 sec.
			01	55 sec.
			02	120 sec.
			03	180 sec.
056	PBX dial tone detection	00*	00	Not detected
			01	Detected
057	Redialing counter (See Note 2)	02*	00	No redialing (Initial dialing only)
			01	1 time
			02	2 times
			~	~
			98	98 times
058	Line monitoring function (For maintenance only)	00	00	Disabled
			01	Enabled
059	Not used			
060	Pause Button Function	00*	00	Pause
			01	DT detection
061	Dialing when it is connected to PBX in Switzerland. (See Note 3)	00	00	Pulse/Tone dialing
			01	Earth dialing
			02	Flash dialing
062	Direct exchange / PBX selection in Germany. (See Note 3)	00	00	Direct exchange (PSTN)
			11	PBX E (Earth dialing)
			12	PBX F (Flash dialing)

*This default value varies with the country.

Note 2



Note 3

This function is not included depending on the country.

Function Parameter Table (7/8)

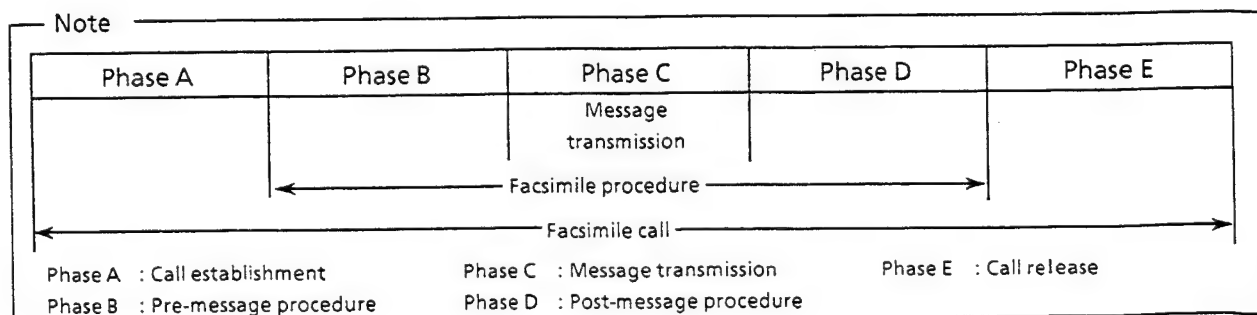
No.	Function	Default Data	Selection	
			Data	Description
063	Dialing form	00*	00	General form
			01	Swedish form
			02	Norwegian form
064 ~ 074	Not used			
075	Automatic multistation journal print	02	00	Not printed
			01	Printed with A4 size
			02	Printed with free length
076 ~ 077	Not used			
078	ON HOOK time between sequential communication calls	01	00	1 sec.
			01	5 sec.
			02	10 sec.
			03	60 sec.
079	Not used			
080	Short Protocol function	01*	00	Disabled
			01	Enabled
081	MWS function	03	00	Disabled
			01	(Not used)
			02	(Not used)
			03	MWS & MWS type II enabled
082 ~ 086	Not used			
087	Interval between CED and NSF/CSI/DIS	00	00	75 msec.
			01	500 msec. (Does not conform to CCITT)
			02	1000 msec. (Does not conform to CCITT)
088	Coding scheme	01	00	MH enabled
			01	MH & MR enabled
089	Verification Stamp selection at memory transmission	00	00	Off
			01	On
090	CNG signal when dialing with built-in dialer (CNG --- Calling Signal)	02	00	Not transmitted (Does not conform to CCITT)
			01	Transmitted in Auto Dialing
			02	Transmitted in Auto dialing or Direct dialing
091	Ring signal counter to start receiving [Normal Mode] (Approx.)	01*	01	1 ring
			02	2 rings
			03	3 rings
			~	~
			08	8 rings

*This default value varies with the country.

Function Parameter Table (8/8)

No.	Function	Default Data	Selection	
			Data	Description
092	Identification column of Journal print	01*	00	ID (TSI/CSI) takes priority.
			01	Station Name takes priority.
093	CCITT ECM	01	00	None
			01	ECM
094 ~ 095	Not used			
096	Telephone handset	02*	00	Not mounted
			01	Mounted (Hook switch status not checked)
			02	Mounted (Hook switch status checked)
097	Not Used			
098	Substitute reception	01	00	Disabled Substitute reception
			01	Perform Substitute reception
099 ~ 100	Not used			
101	Ringing signal counter for TEL/FAX AUTO Switch (Normal : Parameter 091)	00	00	Normal + 0 ring
			01	Normal + 1 ring
			02	Normal + 2 rings
			03	Normal + 3 rings
			~	~
			08	Normal + 8 rings
102	Duplex Ringing in Hongkong	00	00	Normal Mode
			01	Detect Signal and Duplex Ringing
103 ~ 115	Not Used			
116	The prefeed length at setting the recording paper	01	00	0
			01	150mm
			02	300mm
			03	450mm

*This default value varies with the country.

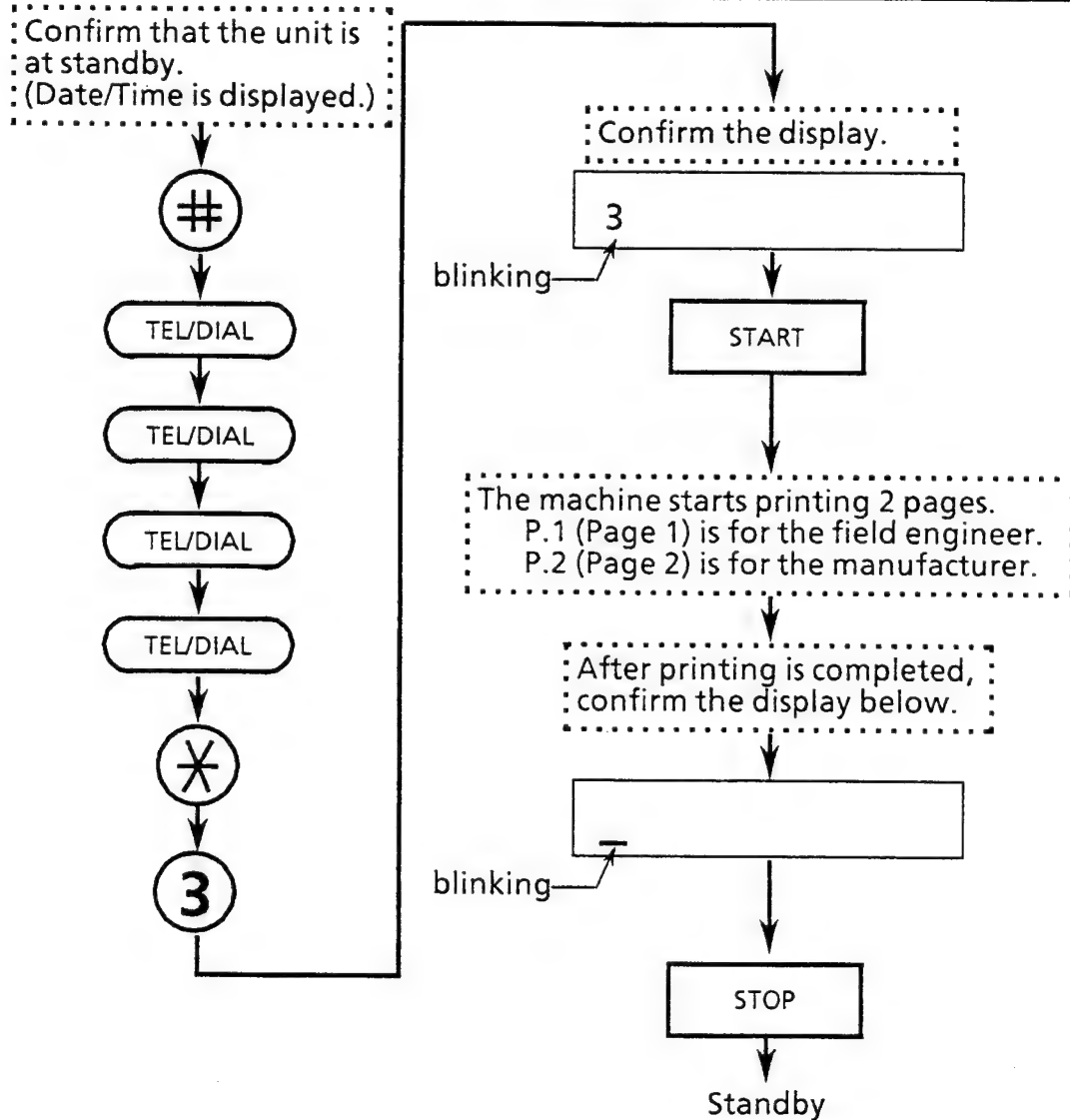


5.3 Test Mode 2

Name	--- RAM Data Setting
Purpose	--- Test Mode 2 is for factory use only.
Important!	--- DO NOT use Test Mode 2, may cause abnormal operation.

5.4 Test Mode 3

Name	--- RAM Data Printout
Purpose	--- Confirms the parameter settings in Test Mode 1, and the number of transmitted/received pages.
Operation	--- Perform the following operation.



NOTE! The explanation of RAM Data printout is on next 2 pages.

Example of RAM Data Printout (P.1 for Test Mode 1)

***** - RAM DATA - ***** DATE 30 - 01 - 1992**** TIME 09:39 ***** P.1

#000 = 01	#030 = 00	#060 = 01	#090 = 01 [02]
#001 = 01	#031 = --	#061 = 00	#091 = 01
#002 = --	#032 = 00	#062 = --	#092 = 01

#027 = --	#057 = 04	#087 = 00	#117 = --
#028 = --	#058 = 00	#088 = 01	#118 = --
#029 = 00	#059 = --	#089 = 00	#119 = --

TRANSMIT PAGE COUNTER : 000000

RECEIVE PAGE COUNTER : 000000

S1 ROM = C128BYC10

-UF128M New York

***** - 01234567890123456789 - *****

Explanation of RAM DATA Printout

- (1) Printing Date (Day - Month - Year)
- (2) Printing Time (Hour:Minute)
- (3) Page Number
 - P.1 --- List of all function parameters (Refer to Test Mode 1)
 - P.2 --- RAM Data (Manufacturer use only)
- (4) Parameter Number
- (5) Present Data
 - -- This means that the parameter is not used.
- (6) Default Data
- (7) Transmit Page Counter
- (8) Receive Page Counter
- (9) ROM Label
- (10) LOGO
- (11) ID Number

Example of RAM Data Printout (P.2 for Test Mode 2)

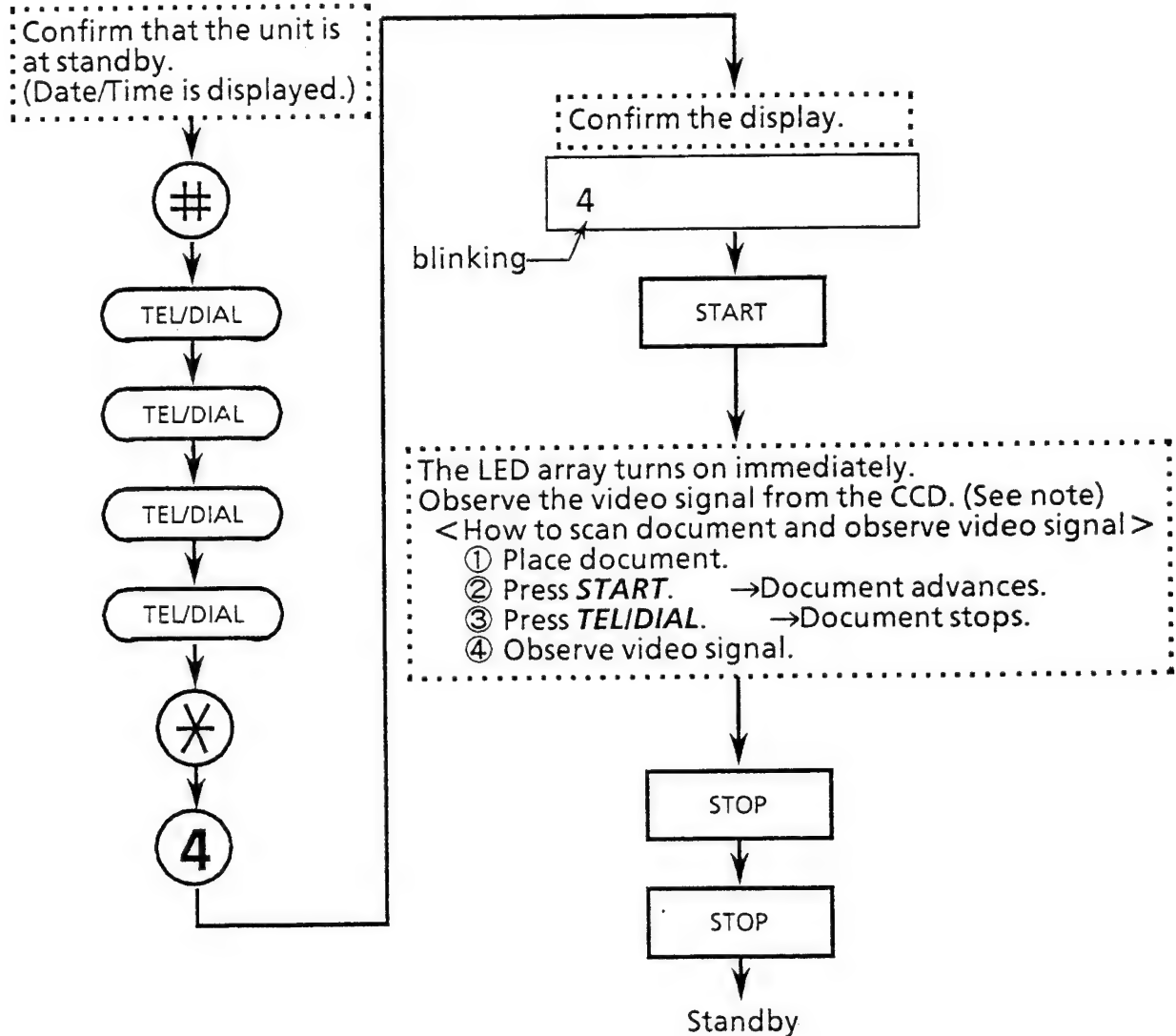
***** - RAM DATA - *****									(1)	(2)	(3)
DATE 30 - 01 - 1992**** TIME 09:39 ***** P.2											
(4)	000	12	28	41	EC	38	14	45	(5)	(6)	
		04	42	60	0D	07	04	0A	FE [C0]		
	010	04	02	20	06	05	43	20	40		
		00	80	20	40	01	00	01	82		
									00		
<hr/>											
	0F0	00	00	00	00	00	00	00	00		
		00	00	00	00	00	00	00	00		
<hr/>											
S1 ROM = C128BYC10											
(7)											
-UF128M New York											
(8)											
***** - 01234567890123456789 - *****											
(9)											

Explanation of RAM DATA Printout

- (1) Printing Date (Day- Month- Year)
- (2) Printing Time (Hour:Minute)
- (3) Page Number
 - P.1 --- List of all function parameters (Refer to Test Mode 1)
 - P.2 --- RAM Data (Manufacturer use only)
- (4) RAM Address (address for the first data in same row)
- (5) Present Data
- (6) Default Data
- (7) ROM Label
- (8) LOGO
- (9) ID Number

5.5 Test Mode 4

Name	--- CCD Test (CCD --- Charge Coupled Device)
Purpose	--- Check if the CCD in VIDEO PC Board works properly.
Operation	--- Perform the following operation.



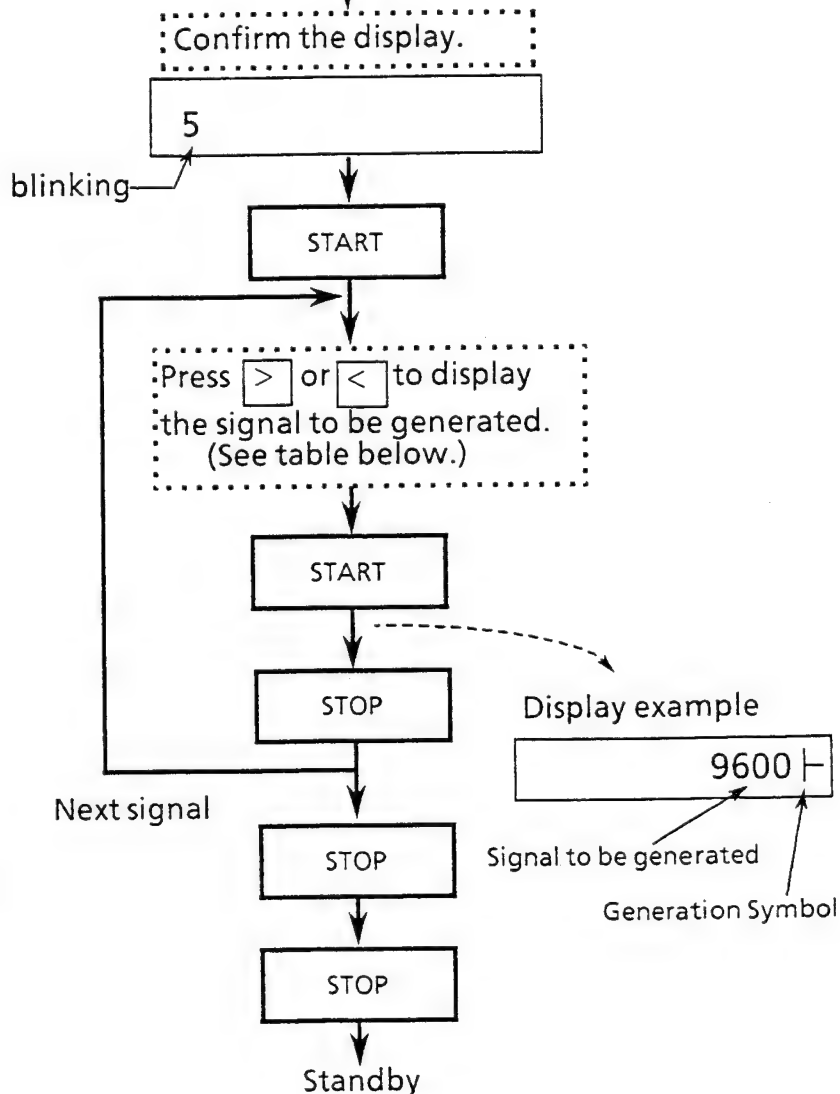
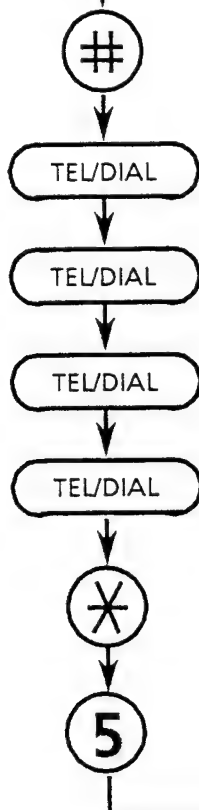
Note: Connect an oscilloscope probe to test points on the SC PC Board.

— Video signal	---	TL3	(SC PCB)
— Ground	---	TG	(SC PCB)
— Trigger Signal	---	TL1	(SC PCB)

5.6 Test Mode 5

Name --- Fax Signal Generation
Purpose --- Check if the Modem circuit and LCU PC Board work properly.
Operation --- Perform the following operation.

Confirm that the unit is
at standby.
(Date/Time is displayed.)



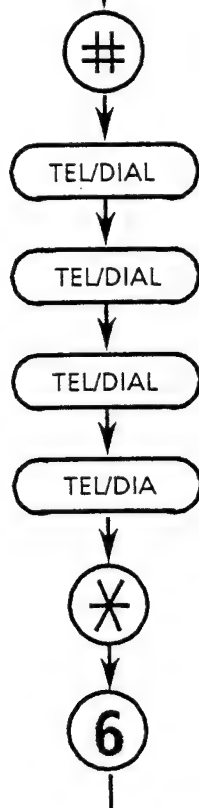
Generating Signal Table

Display	Generated Signal	Display	Generated Signal
9600	V.29 9600 bps Data (mark: 1)	1100	1100 Hz tonal signal
7200	V.29 7200 bps Data (mark: 1)	1650	1650 Hz tonal signal
4800	V.27ter 4800 bps Data (mark: 1)	1850	1850 Hz tonal signal
2400	V.27ter 2400 bps Data (mark: 1)	2100	2100 Hz tonal signal
300	300 bps Flag pattern	LINE	No signal (Relay RL1/RL3 of LCU activated)
462	462Hz tonal signal		

5.7 Test Mode 6

Name	--- RAM Initialization & Display Test
Purpose	--- Initialize the stored data in RAM memory. Check if all segments in display are normal.
Operation	--- Perform the following operation.

Confirm that the unit is
at standby.
(Date/Time is displayed.)



Confirm the display.

6

blinking

START

Confirm all LEDs are lit and
all segments of LCD display
are lit as shown below.

8888888888888888:88



(See table below.)

Confirm the display.

blinking

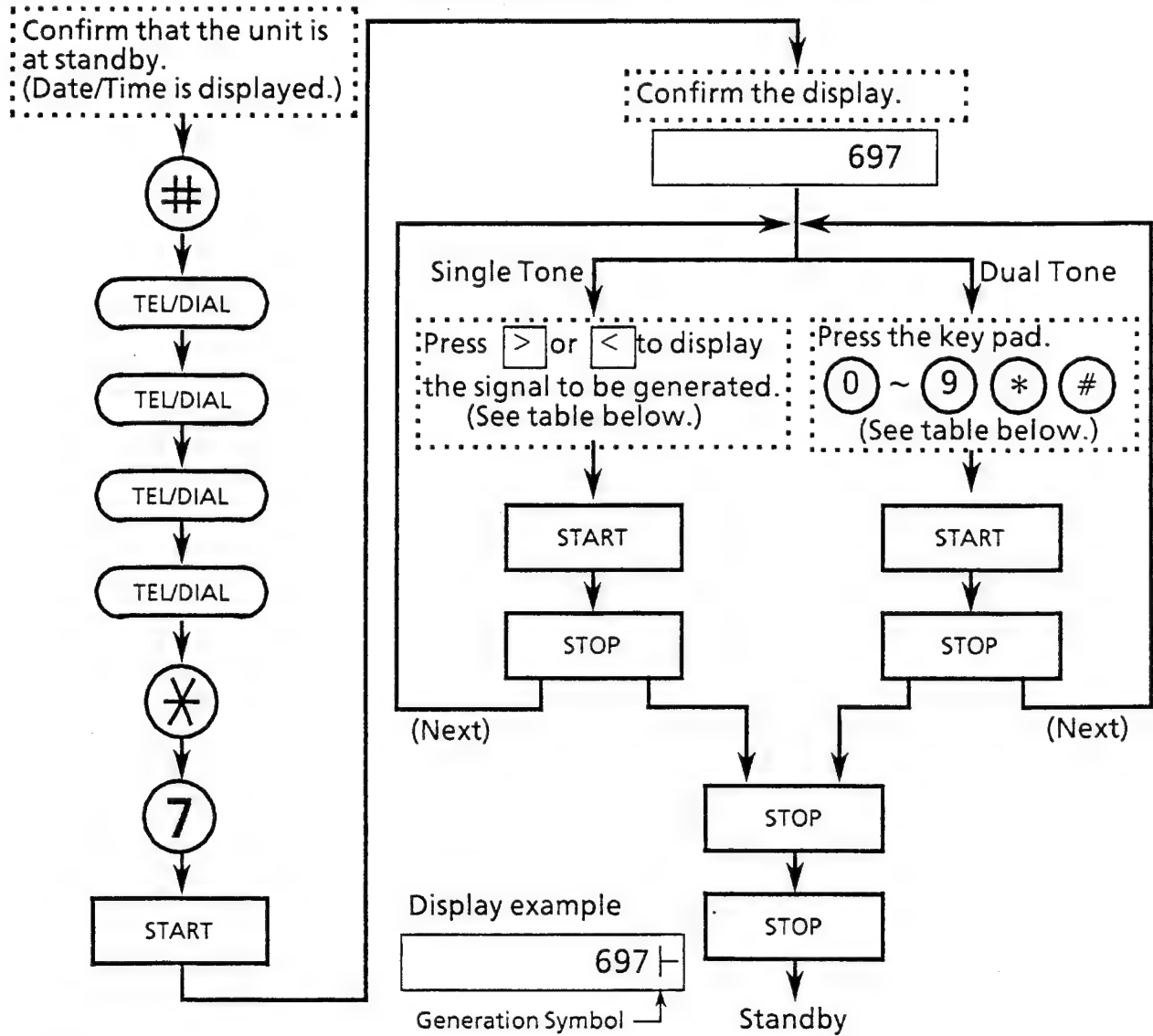
STOP

Standby

Button	Initialized Data
(X)	The default value of Test Mode 1 is set for each parameter.
(1) (0)	ID, Polling Password and LOGO
(1) (2)	Journal contents
(1) (3)	Registered Telephone Numbers
(9) (9)	All above data

5.8 Test Mode 7

Name	--- DTMF Signal Generation
Purpose	--- Check if the signal for tone dialing is generated properly.
Operation	--- Perform the following operation.



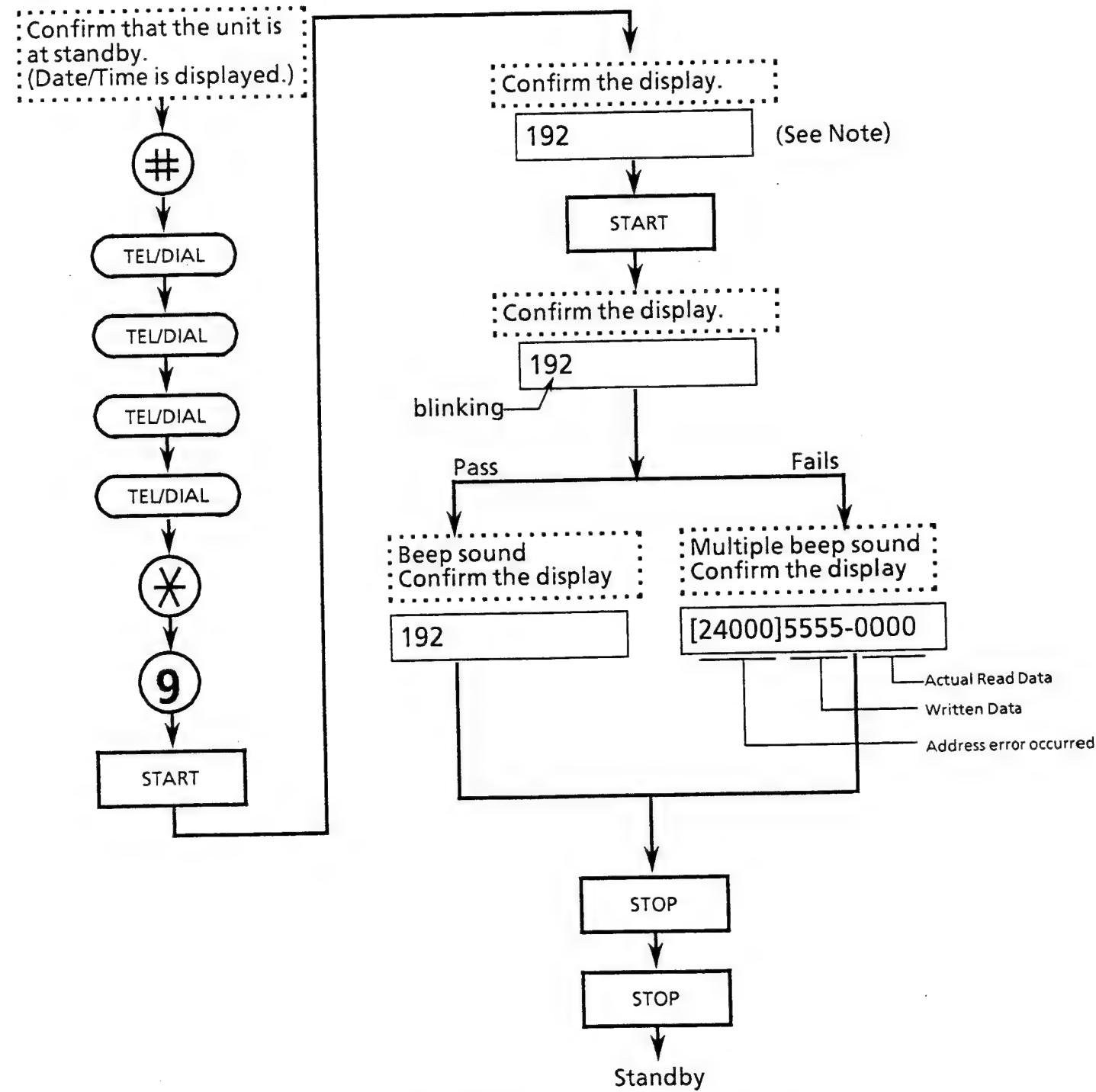
Generating Signal Table

Single Tone				Dual Tone					
Display	Generated Tone	Display	Generated Tone	key pad	Display	Generated Tone	key pad	Display	Generated Tone
697	697 Hz	1209	1209 Hz	1	[1] 697 1209	697&1209 Hz	7	[7] 852 1209	852&1209 Hz
770	770 Hz	1336	1336 Hz	2	[2] 697 1336	697&1336 Hz	8	[8] 852 1336	852&1336 Hz
852	852 Hz	1477	1477 Hz	3	[3] 697 1477	697&1477 Hz	9	[9] 852 1477	852&1477 Hz
941	941 Hz	LINE	See Note	4	[4] 770 1209	770&1209 Hz	0	[0] 941 1336	941&1336 Hz
				5	[5] 770 1336	770&1336 Hz	#	[J] 941 1477	941&1477 Hz
				6	[6] 770 1477	770&1477 Hz	*	[L] 941 1209	941&1209 Hz

Note --- LINE means that no signal is generated and relay RL1 & RL3 of LCU are activated.

5.9 Test Mode 9

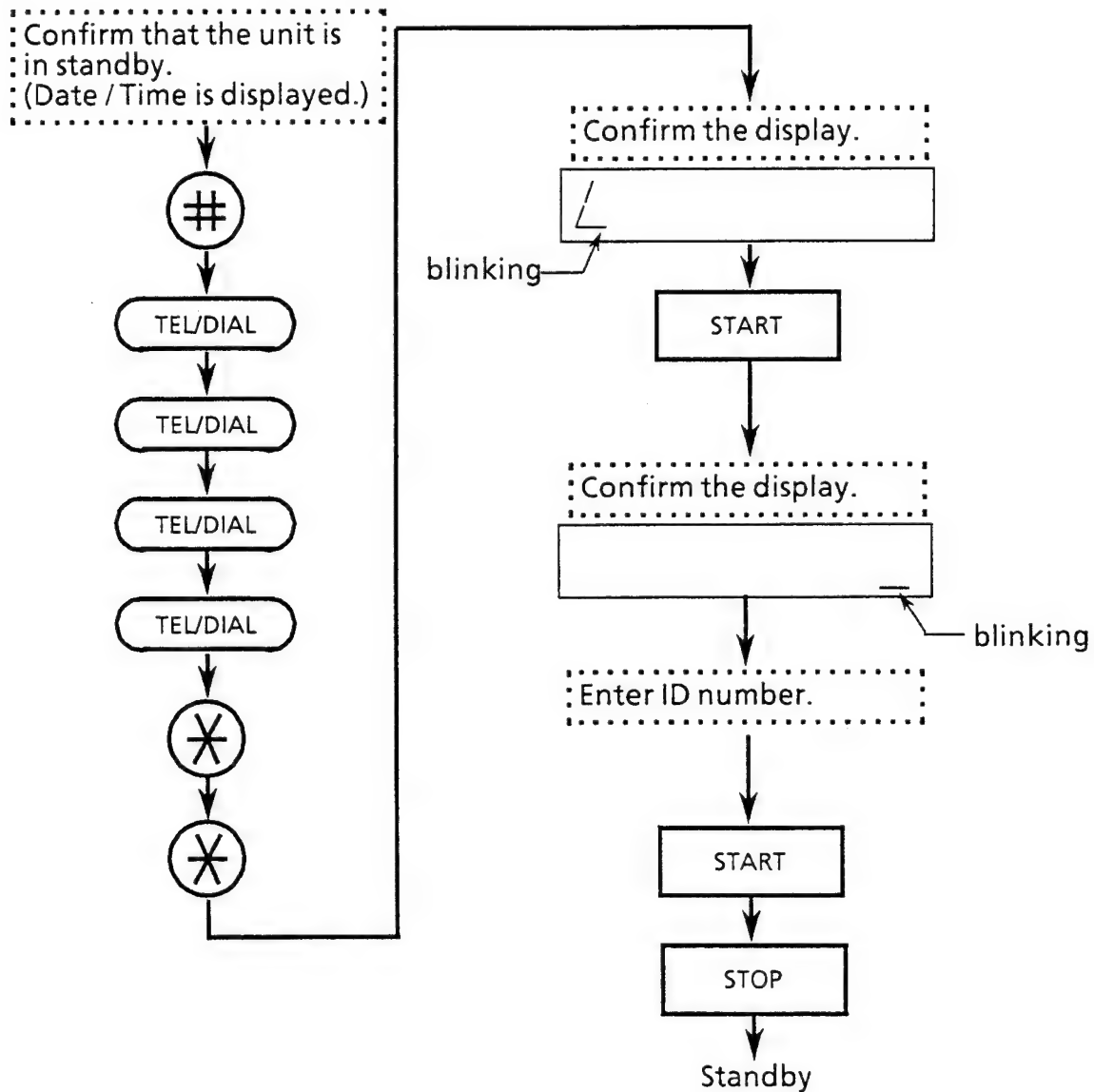
Name	--- Memory Test
Purpose	--- Checking the memory operation by writing data into the memory and reading it to verify for proper operation.
Operation	--- Perform the following operation.



Note : Total amount of memory (k byte) shows is including the system working memory and document memory.

5.10 Test Mode ✕

Name	--- ID Number Set
Purpose	--- Test Mode ✕ is for Service personnel use only.
Operation	--- Perform the following operation.



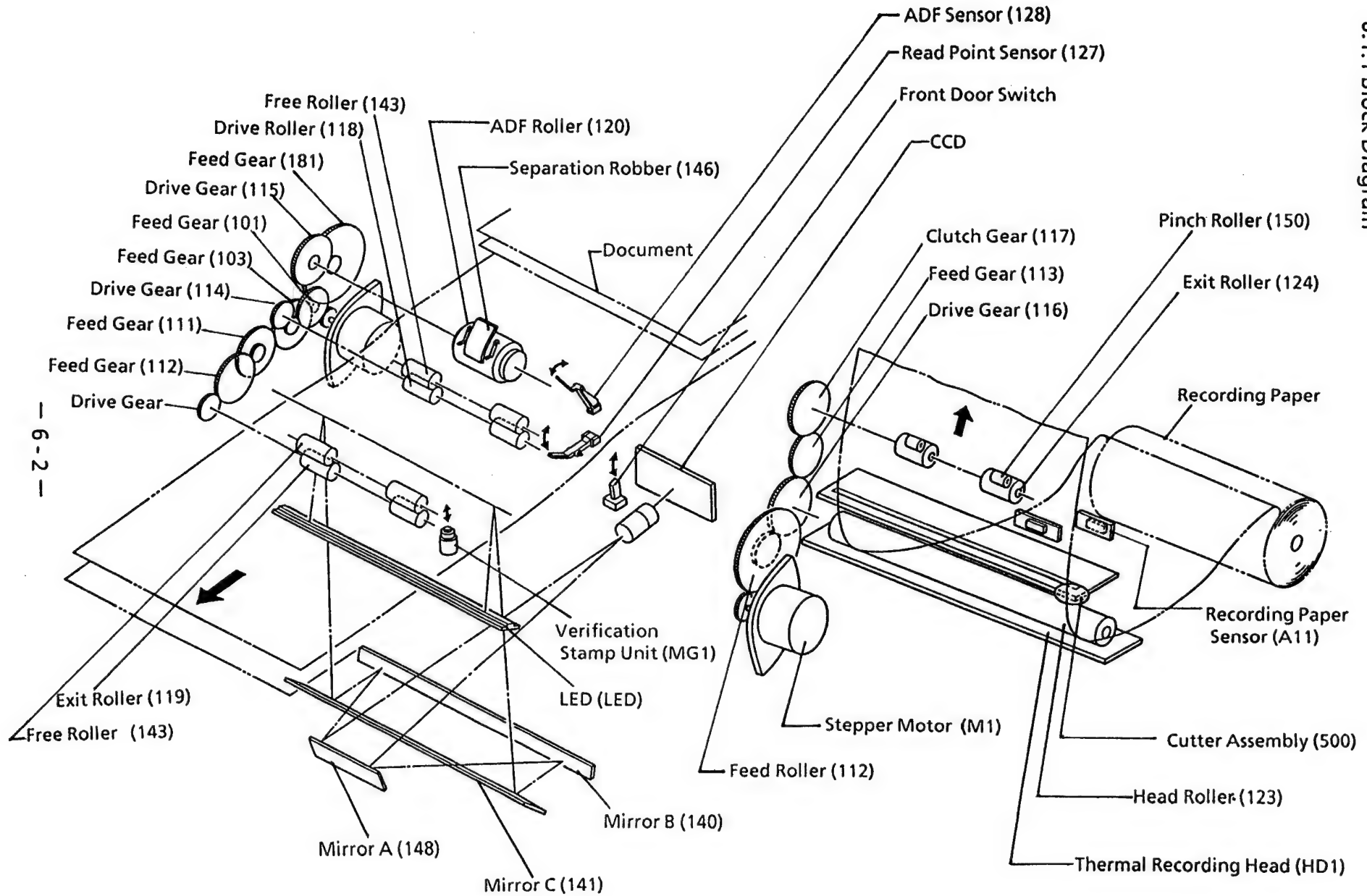
Chapter 6

System Description

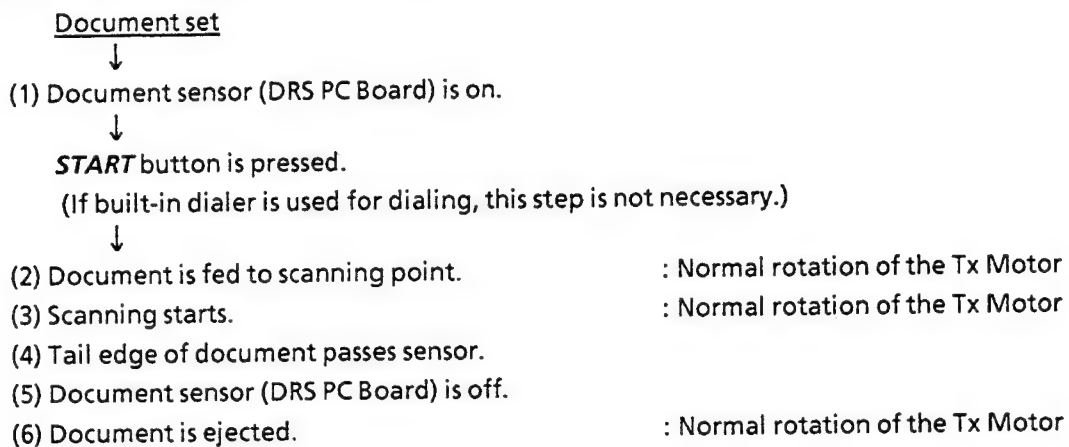
6.1	Mechanism	6 - 2
6.2	Electrical Circuit	6 - 4
6.2.1	Block Diagram	6 - 4
6.2.2	Signal Route in Copy Mode	6 - 5
6.2.3	Signal Route in Transmission	6 - 5
6.2.4	Signal Route in Reception	6 - 6
6.2.5	Signal Route in Report/List Print	6 - 6
6.3	VIDEO PC Board	6 - 7
6.3.1	Block Diagram	6 - 7
6.3.2	Basic Function	6 - 7
6.3.3	Timing Chart	6 - 8
6.4	SC PC Board	6 - 9
6.4.1	Video Signal Process Circuit	6 - 9
6.4.2	CPU and Peripheral Circuit	6 - 12
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6.4.6	Modem Peripheral Circuit	6 - 23
6.4.7	Monitoring Circuit	6 - 24
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6.4.11	Cutter Motor Drive Circuit	6 - 30
6.5	LCU Circuit	6 - 31
6.6	DRS PC Board	6 - 34
6.7	Control Panel	6 - 36
6.8	Power Supply Unit	6 - 38
6.9	TAM I/F	6 - 43

6.1 Mechanism

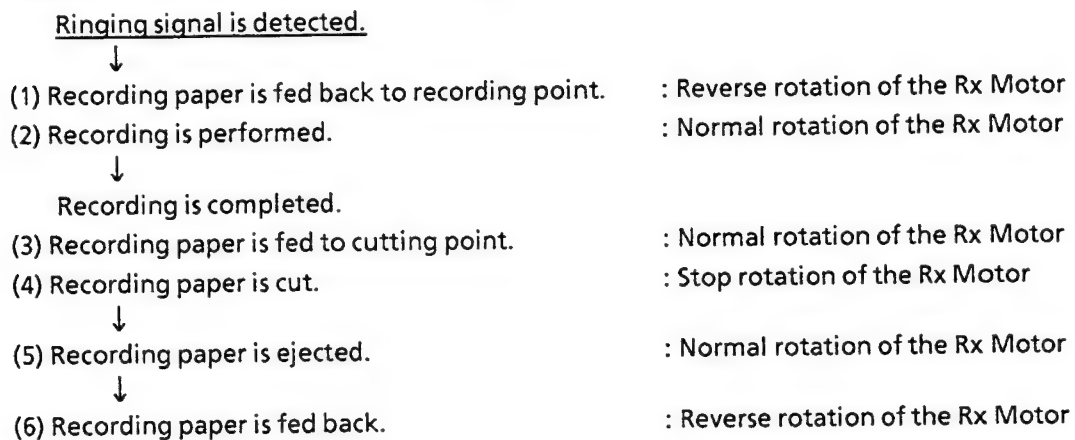
6.1.1 Block Diagram



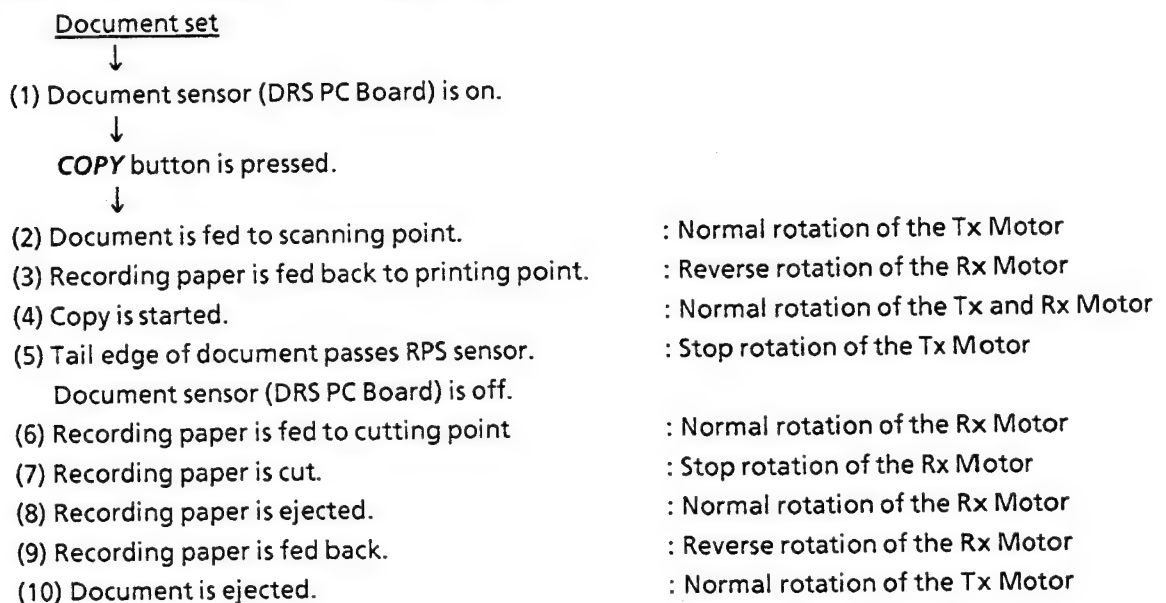
6.1.2 Mechanism Operation in Transmission



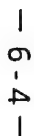
6.1.3 Mechanism Operation in Reception



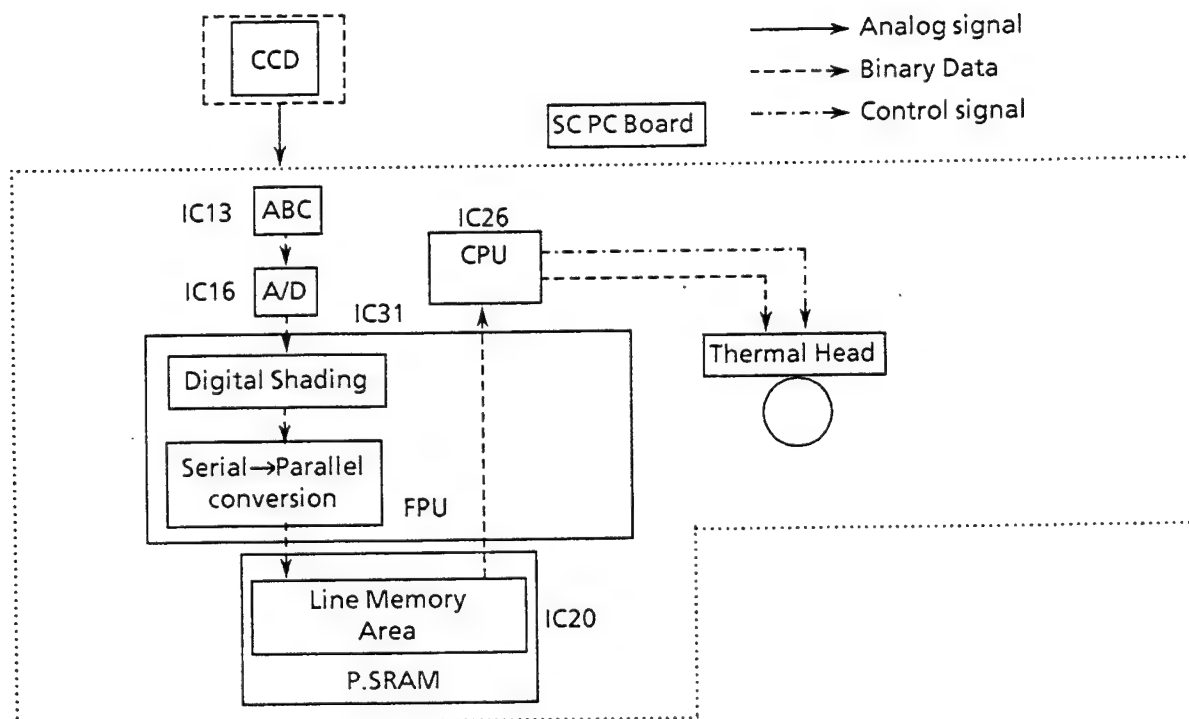
6.1.4 Mechanism Operation in Copy Mode



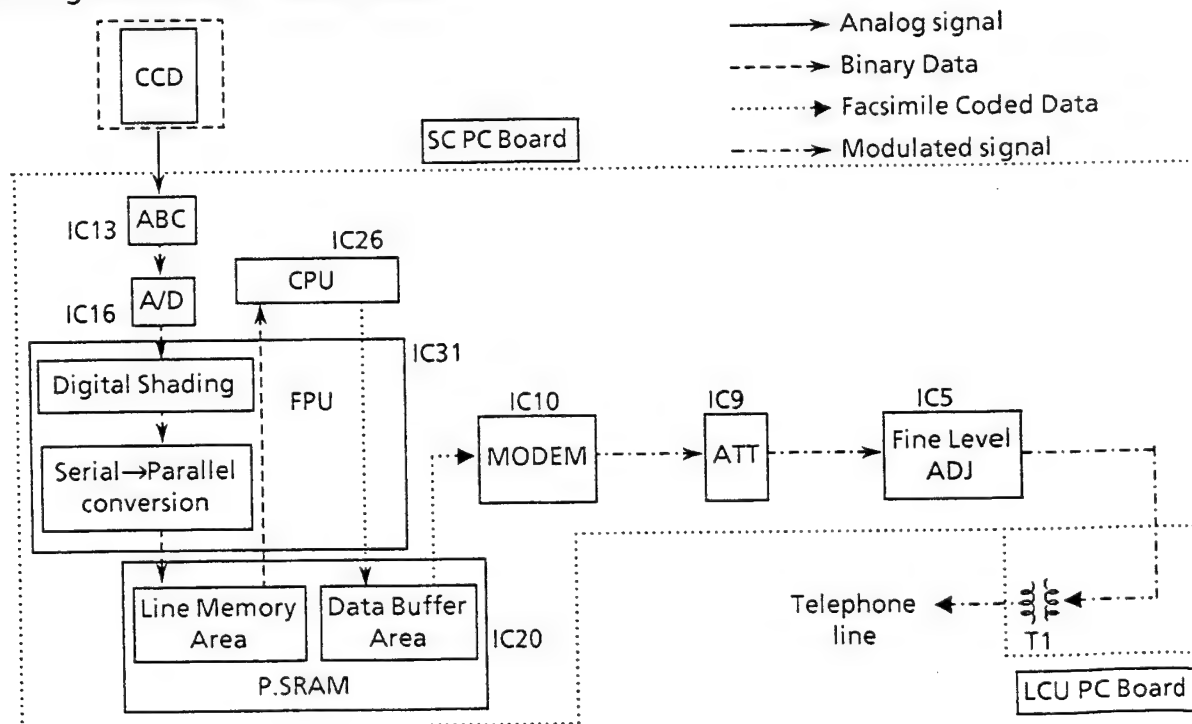
6.2.1 Block Diagram



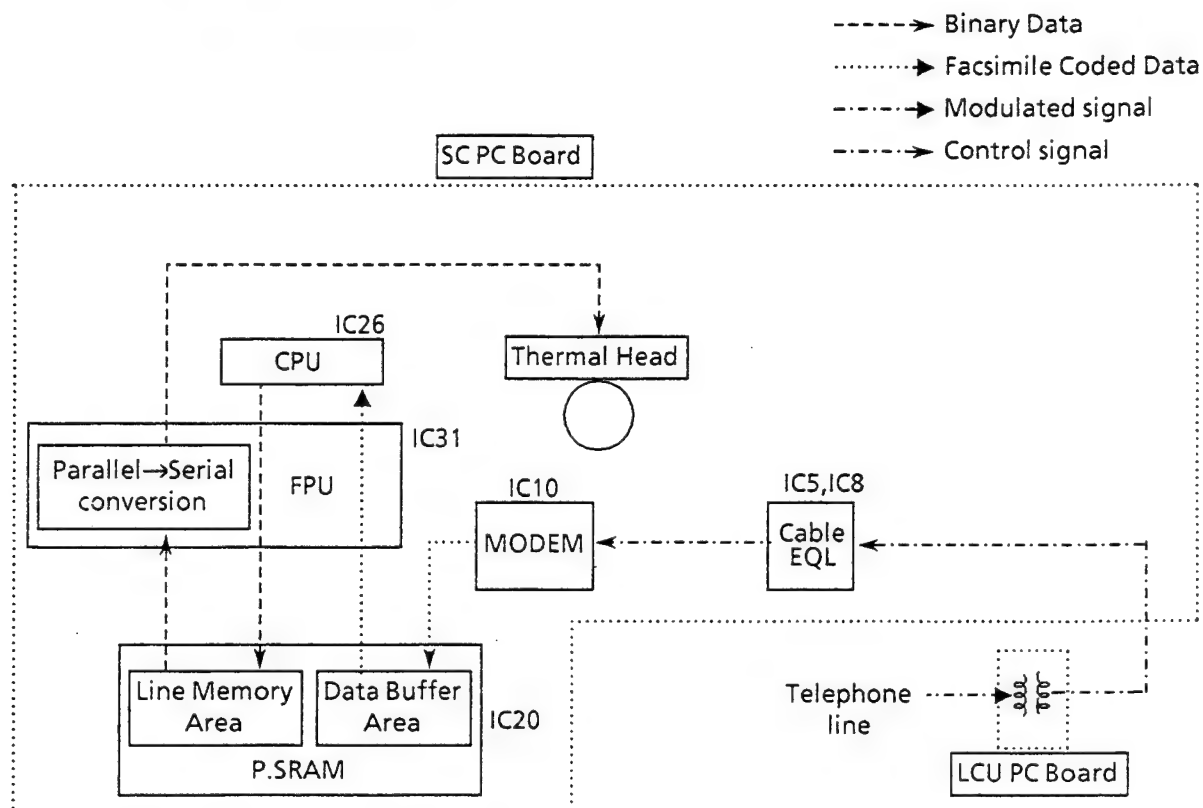
6.2.2 Signal Route in Copy Mode



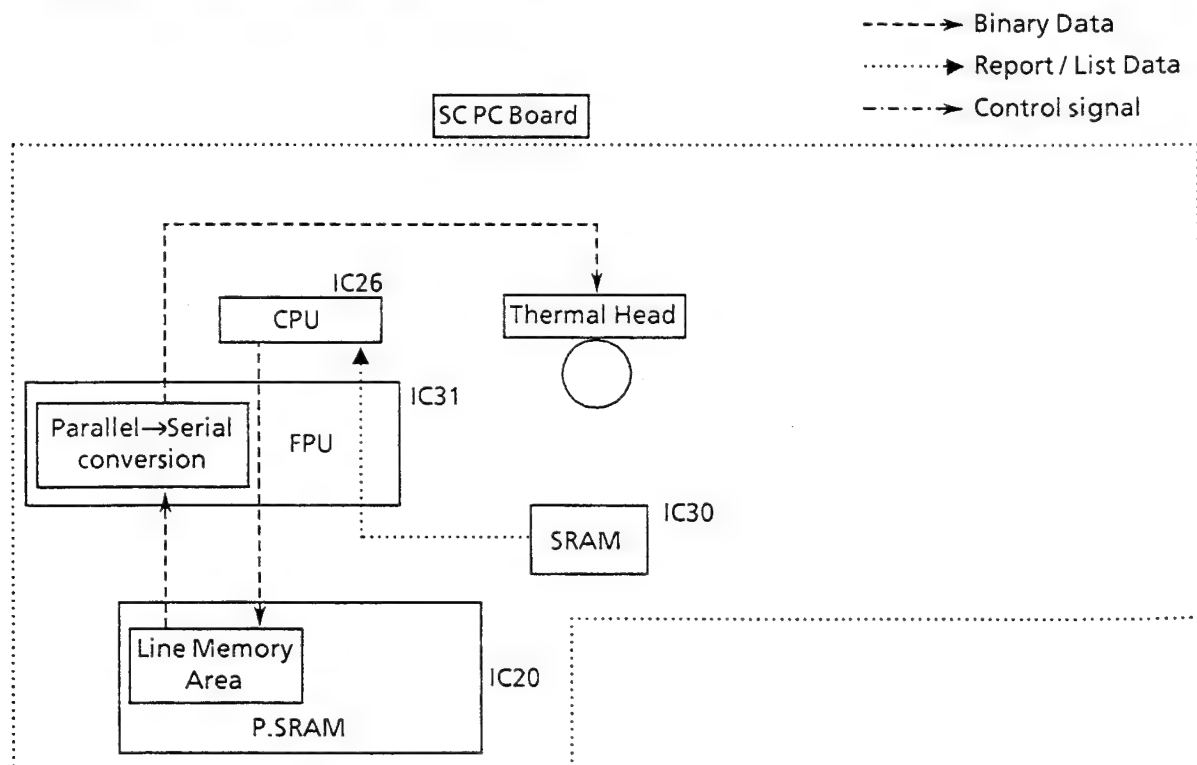
6.2.3 Signal Route in Transmission



6.2.4 Signal Route in Reception



6.2.5 Signal Route in Report/List Print



6.3 VIDEO PC Board

6.3.1 Block Diagram

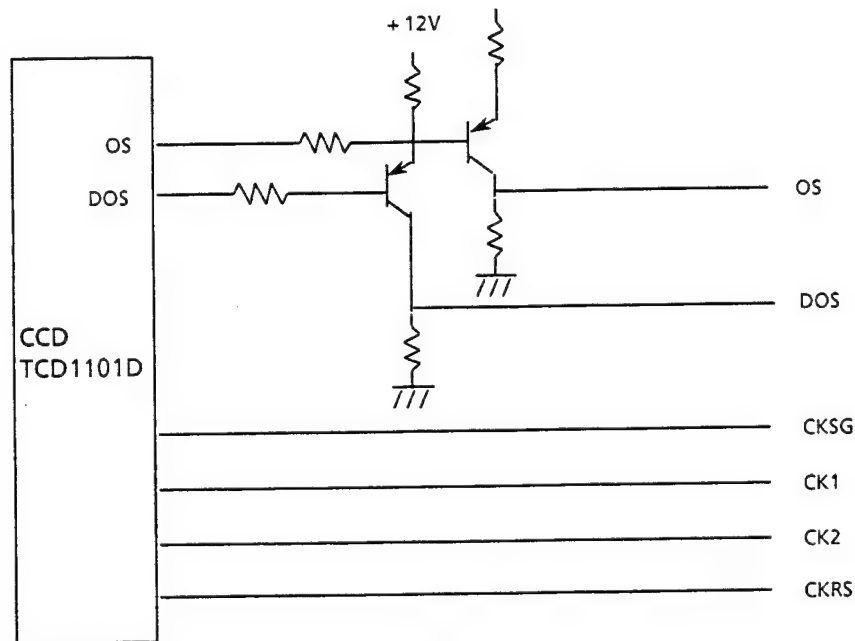


Fig.1

6.3.2 Basic function

The photo picture from the optical block is inputted to the CCD on the video PCB and converted to an electrical signal. It consists of a CCD device which converts picture data to an electrical signal Differential Amplifier which amplifies the electrical picture signal from the CCD, Sample -hold circuit which removes noise components from the picture signal and the CCD drive circuit.

The CCD and output Buffer AMP are mounted on the VIDEO PC Board, all other circuits are on the SC PC Board.

(1) CCD

THE CCD device (TCD1101D) used on this Video PC Board is capable of scanning a picture to give 1728 bits of data per line.

It converts photo picture information to electrical picture signals and outputs serial scanning data.

Fig.2 shows you detailed timing of each signal and clock in the Video PC Board.

- CKSG : Shift Clock Gate (Tint = 10ms)
- CK1 : CLOCK (= 500KHz)
- CK2 : CLOCK (= 500KHz)
- CKRS : Reset Clock (= 1MHz)
- OS : Signal Output
- DOS : Compensation Output

6.3.3 Timing Chart

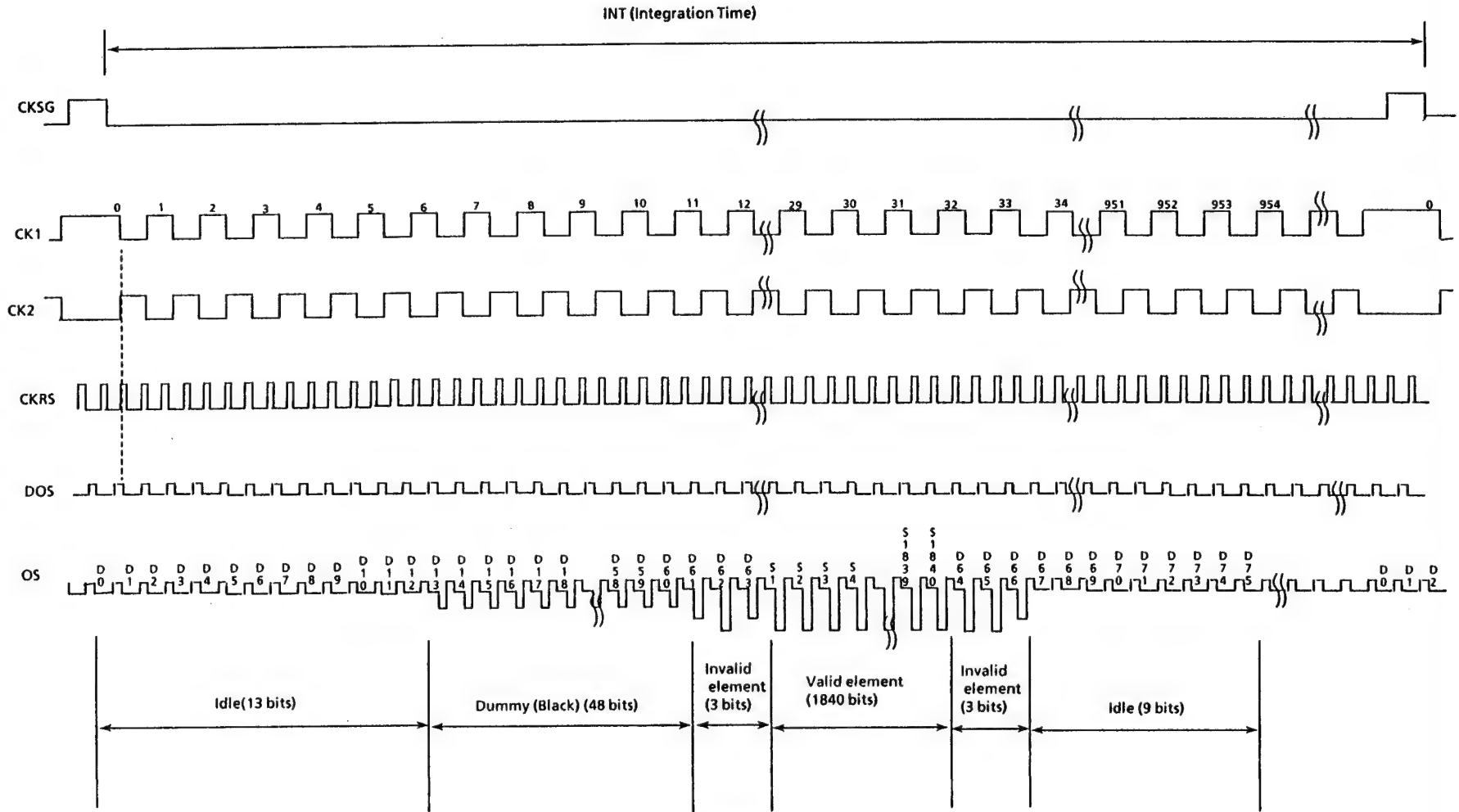
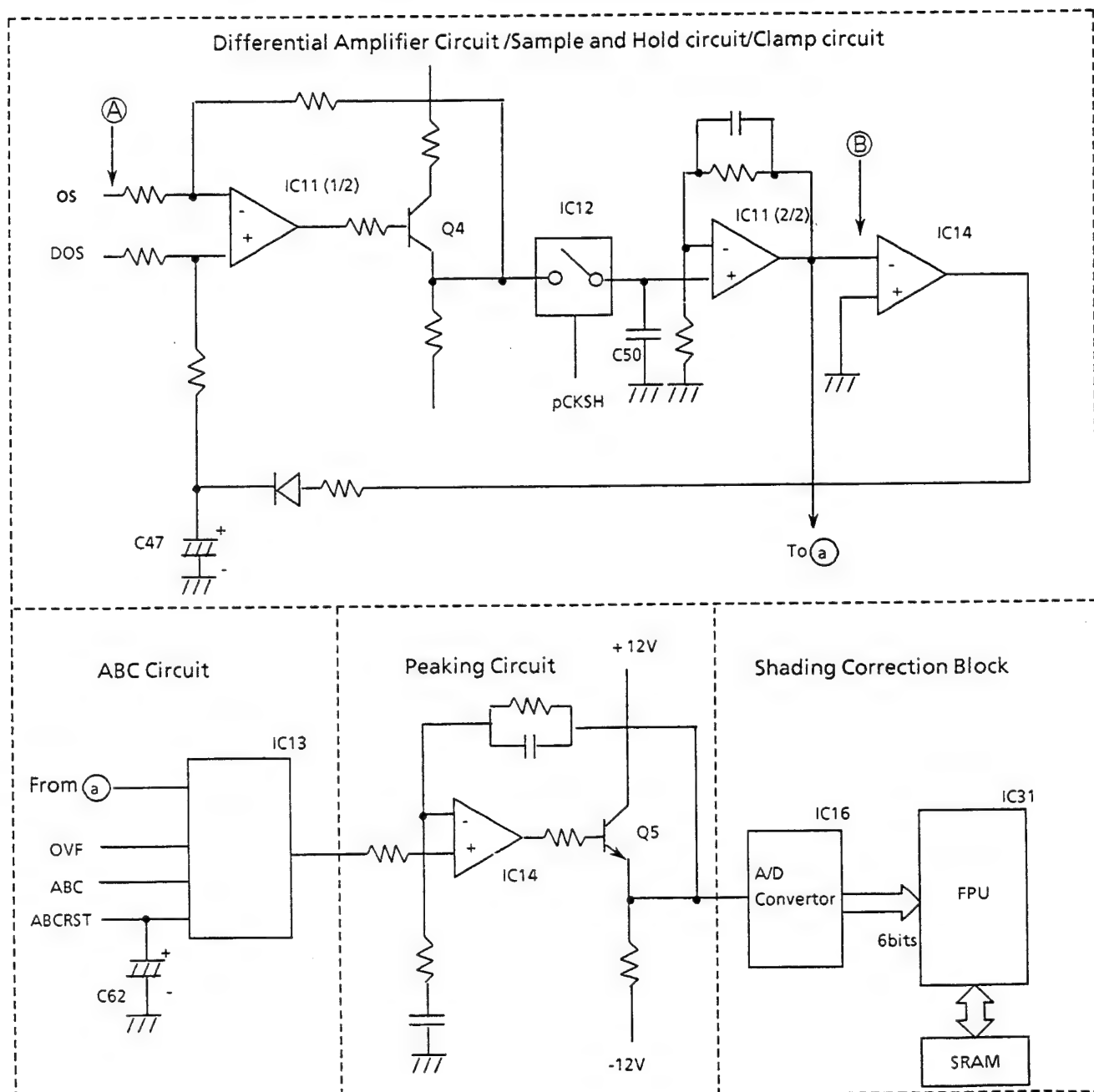


Fig.2

6.4 SC PC Board

6.4.1 Video Signal Process Circuit

(1) Block Diagram



(2) Differential Amplifier Circuit

This consists of operation at amplifier IC11 (1/2) and its peripheral circuit.

The noise components of the reset clock and the d.c. components are removed by a Differential Amplifier which amplifies both the OS signal (Picture signal output) and DOS signal (Compensation output) outputs from the CCD device so that a high S/N ratio is output.

(3) Sample and Hold circuit

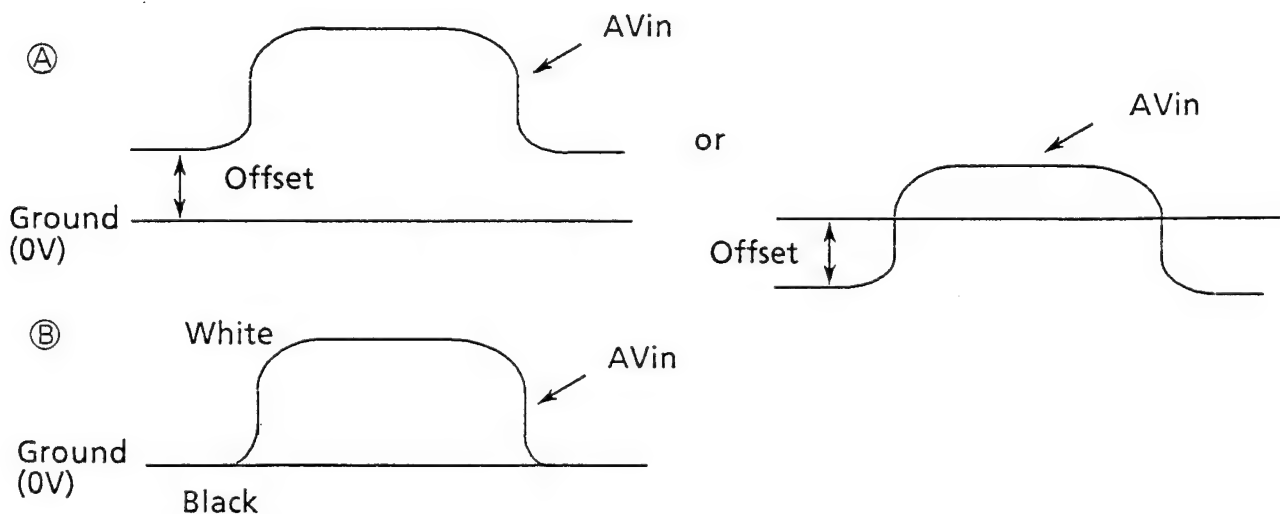
The sample and hold circuit consists of operational amplifier IC11 (2/2), analog switch IC12 and hold capacitor C50.

The reset clock noise which could not be removed by the differential amplifier circuit is removed completely by sampling and holding the output signal from the differential amplifier circuit.

(4) Clamp Circuit

This circuit consists of IC14 (Comparator), C47 and peripheral circuitry. IC14 and C47 determine the clamping voltage.

The output signal from the VIDEO PC Board includes a few volts offset at maximum. When a document is completely black, the circuit clamps its output to ground level (0V). This method realizes a wide dynamic range of signals.



(5) ABC Circuit

ABC stands for Automatic Background Control and consists of IC 13 (ABC AMP), and peripherals. The circuit minimizes scanning quality deterioration caused by LED light levels dropping with time, a colored background to the document and stained documents.

Output from the VIDEO PC Board is clamped by the clamp circuit, amplified by IC13, processed by the peaking circuit and then inputted to IC16. In IC16 the signal is digitized by an A/D convertor and submitted to the shading correction block.

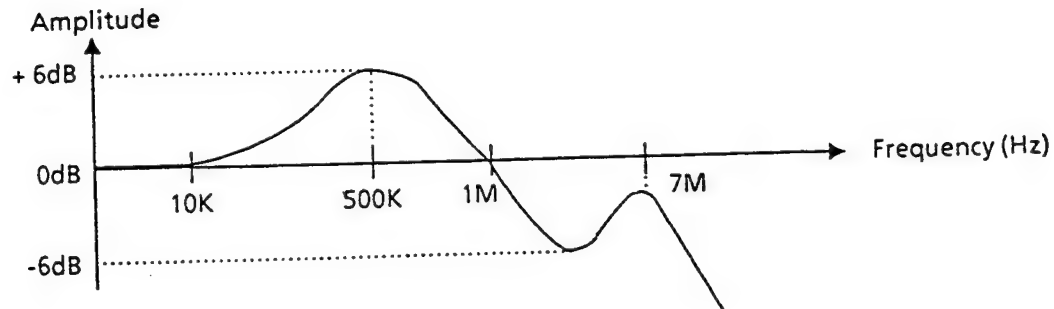
After shading correction, in case the signal level exceeds the white reference level, FPU outputs OVF to the control ABC. Then C62 is charged. Thus the input signal level is attenuated low.

In case the signal level after shading correction is lower than the white reference level due to a colored background to the document or a stained document, OVF is not output and C62 is in a discharged state. Thus the input signal level goes high.

With this circuit, the machine can maintain scanning quality regardless of whether the document is bright, colored or stained.

(6) Peaking Circuit

This circuit, consisting of IC14 (Operational AMP) and peripherals, differentiates the signal. The circuit amplifies the high frequency ingredient of the signal to compensate for resolution deterioration caused by the optical block. The compensation curve is as below.



(7) Shading Correction

The shading correction block is to correct the light intensity distortion caused by the lens and LED. It is performed by IC31 (FPU).

Prior to actual document scanning, the circuit scans the reference white section on the document. The scanning Guide generates compensation data and stores it in the SRAM. The compensation data is in proportion to the distortion of the scanned signal waveform. The compensation data is created for each bit. When a document is actually scanned, the video signal is corrected with compensation data. The corrected data is output to the internal data bus inside IC31. Shading correction is carried out for every document during transmission and copy.

6.4.2 CPU and Peripheral Circuit

(1) Address & Data Bus

Address Bus : 12bits used out of 20 bits
Data Bus : 8bits

(2) CPU / IC26

Type : TPM90C051
Software : Z80 upper compatible
Data process : 8bits internal, 8bits external

(3) ROM / IC22 (for system operation)

Capacity : 1Mbits (128K × 8bit)
System control program storage.

(4) P-SRAM / IC20, IC21 (Pseudo Static RAM)

Capacity : 256Kbits (32K × 8bits) × 2
Program work area, Data buffer area, Line memory area and Document memory area.

(5) SRAM / IC30

Capacity : 64Kbits (8K × 8bits)
Telephone number, Journal data and parameter storage
Battery backed up.

(6) FPU / IC31

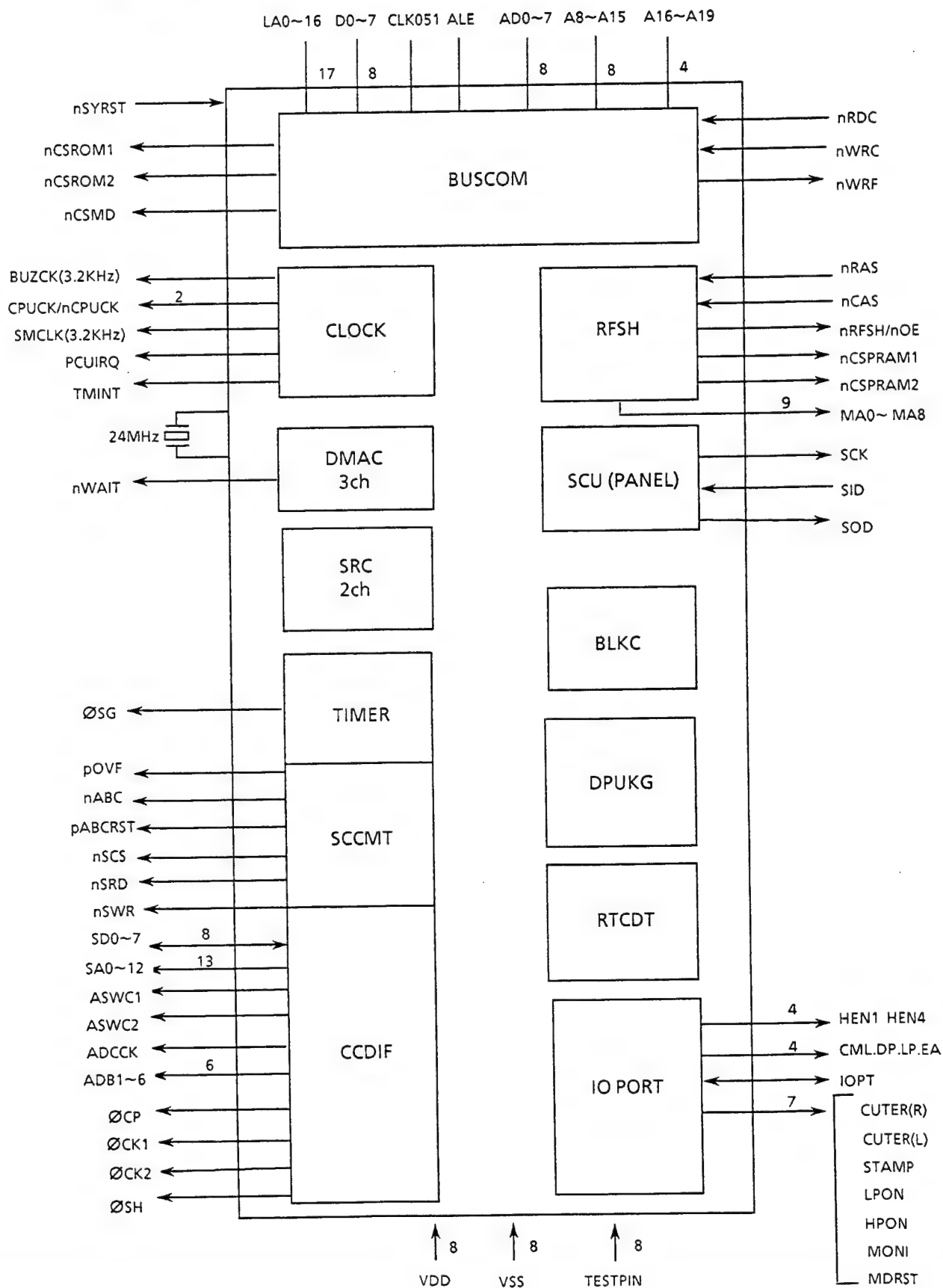
Bus control (All buses connected to FPU)
DMA function
(Refer to 6.4.2)

(7) MODEM / IC10

Modulation (digital→analog) and demodulation (analog→digital)
(Refer to 6.4.6)

6.4.3 FPU

① Block Diagram



② Block Explanation

FPU stands for Facsimile Processing Unit. FPU is a Data Array containing functions necessary for facsimile equipment. The major blocks in The FPU are explained below.

(1) BUS CON (Bus Control Unit)

- Decodes address and outputs chip select signals
- Separates data bus : [AD0~7] \rightleftharpoons [D0~7] / [LA0~7]
- Interfaces with CPU and peripherals

(2) CLOCK (Clock Generation Block)

- Divides 24MHz clock for CPU and originates pulse for timer interruption.

CPUCK	: 12MHz
SMCLK	: 3.2KHz
PCUIRQ	: 9 μ sec. pulse width / 2.5msec. cycle
BUZCK	: 3.2KHz (for panel touch tone)
FPU internal Clock	: 1MHz
TMINT	: 1 μ sec. pulse width / 2.5msec. cycle

(3) DMAC (Direct Memory Access Control Block)

- Controls PSRAM in DMA mode.

(4) SRC (Search Block)

- Searches changing element and then locates to CPU.

(5) TIMER (Timer Counter)

- This is a presettable counter that determines the number of picture elements (pels) .

(6) SCCNT (Scan Data Control Block)

[Document Scanning Mode]

When 8-bit digitized video signals are shifted in shift register, DMAC block outputs — HLDRQ to CPU, receives pHLDAK from CPU by return and then stores video signal to P-SRAM (Pseudo Static Random Access Memory).

(7) CCDIF (Charge Coupled Device Interface)

- This block processes the video signal.

(8) RFSH

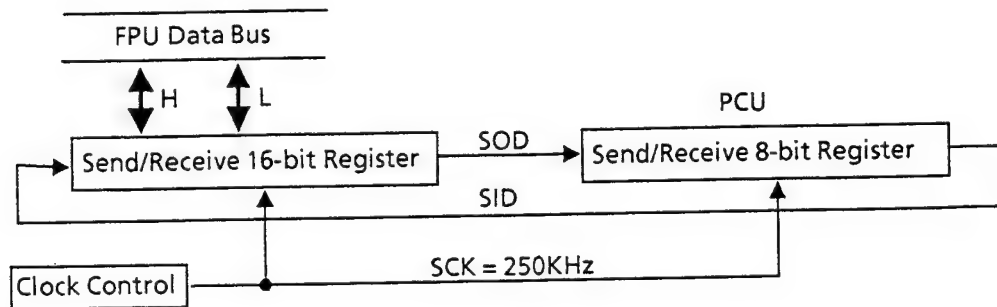
PSRAM control

(9) SCU (Serial Communication Unit)

- Performs serial communication with PCU (Panel Control Unit)

- Data length : 16 bits
- Transfer clock : 250KHz

Data register is looped in FPU and PCU. Send data and receive data are exchanged simultaneously. Block diagram is illustrated below.



(10) BLKC (Black Byte Counter Block)

- Searches white-to-black transition in encoding data

(11) DPUKG (Encoded 8-bit Data Package and Unpackage.)

- During reception and transmission, this block detects encoded bits amounting to 8-bits (1 byte) and then sets a flag. Thus dividing the encoded data stream into 8-bit long packages.

(12) RTCDT (RTC Detector Block)

- Detects EOL (End Of Line : 000000000001) from data stream in receiving mode and sets Flag.

(13) IO PORT (Input / Output port)

- Output port to control blocks of FPU
- Input port (Not used)

(14) TESTPIN

Test mode circuit for internal check

Pin Assignment Table of DZZSP58021 (FPU) (1/4)

No.	Name	Type	Connection	Description
4 30 50 70 90 110 130 150	Vss	V	GND	GND(Vss) for digital circuit
1 20 41 60 81 100 121 140	Vdd	V	+ 5V	+ 5V power for FPU
2	X1	I/O	Xtal	Clock Generation
3	X2	I/O	Xtal	Clock Generation
5	CLK51	I	CPU	1/4 System Clock Signal
6	SMCLK	O	CPU	Clock Signal for Motor
7 8 9	SCK SOD SID	O I O	CNJ13	Serial data communication to / from panel SOD and SID are transferred by SCK.
10	nPCUIRQ	O	Shift Resistor	Shift/Load Control
11	CUTERR	O	Cutter Drive	Cutter Motor control (Right Side)
12	CUTERL	O	Cutter Drive	Cutter Motor control (Left Side)
13	STAMP	O	CNJ11	Stamp H = ON , L = OFF
14	LPON	O	CNJ11	LED Lamp H = ON , L = OFF
15	HPON	O	Drive	Printing Power (+ 24VTH) Control H = ON,L = OFF
16	MON1	O	Monitor Circuit	Monitor Speaker H = ON,L = OFF
17	MDRST	O	Drive	Resetting MODEM LSI
18	IOPT	O	NC	
19 21 22 23	HEN1 HEN2 HEN3 HEN4	O	CNJ14	Thermal Head Print Enable L = Print HEN1 = Block1 HEN2 = Block2 HEN3 = Block3 HEN4 = Block4

Type V --- Voltage (Power), T --- Test Input, AI --- Analog Input
 I --- Input, O --- Output, I/O --- Input & Output
 Name "n" --- Low active, "p" --- High active

Pin Assignment Table of DZZSP58021 (FPU) (2/4)

No.	Name	Type	Connection	Description
24	CMLRL	O	Relay Drive	Line Switching Relay Drive H = FAX Side, L = Telephone Side
25	DPRL	O	Relay Drive	Pulse Dial Relay Drive H = Make, L = Break
26	LPRL	O	Relay Drive	Loop Relay Drive H = Make, L = Break
27	EARL	O	Relay Drive	Earth Dial Relay Drive H = Make, L = Break
28	CKSG	O	CNJ12	Shift Gate Signal (CCD)
29	CKRS	O	CNJ12	Reset Gate Signal (CCD)
31	CK1	O	CNJ12	CCD clock signal
32	CK2	O	CNJ12	CCD clock signal
33	CKSH	O	Sample and Hold Circuit	Sample Clock (1MHz)
34 35 36 37 38 39	ADB1 ADB2 ADB3 ADB4 ADB5 ADB6	I	A/D Converter	The signal from the A/D Converter is put onto the Data Bus.
40	ADCKK	O	A/D Converter	Clock for A/D Converter
42 43	ASWC1 ASWC2	O	Input switching circuit	<div>ASWC2 ASWC1 Select Input</div> <div>0 0 ABC Output</div> <div>0 1 Exit Sensor</div> <div>1 0 Paper Sensor</div> <div>1 1 Thermal Head Temperature</div>
44	BUZCK	O	Drive	Buzzer Clock (3.2 KHz)
45	pABCRST	O	ABC	ABC Reset signal
46	nABC	O	ABC	ABC Enable Signal (L: Active)
47	pOVF	I	ABC	Overflow Signal (ABC Control)
48 49	nCSROM1 nCSROM2	O	ROM	Chip Select signal
51 52 53 54 55 56 57 58	SD0 SD1 SD2 SD3 SD4 SD5 SD6 SD7	I/O	SRAM	SRAM Data Bus
59	nSCS	O	SRAM	Chip Select to SRAM
61	nSRD	O	SRAM	Read Enable to SRAM
62	nSWR	O	SRAM	Write Enable to SRAM

Type V --- Voltage (Power), T --- Test Input, AI --- Analog Input
I --- Input, O --- Output, I/O --- Input & Output
Name "n" --- Low active, "p" --- High active

Pin Assignment Table of DZZSP58021 (FPU) (3/4)

No.	Name	Type	Connection	Description
63 64 65 66 67 68 69 71 72 73 74 75 76	SA0 SA1 SA2 SA3 SA4 SA5 SA6 SA7 SA8 SA9 SA10 SA11 SA12	O	SRAM	Address Bus Line
77	OPT		NC	
78 79	D0 D1	I/O	MODEM PSRAM ROM	Data Bus (bit 0~7)
80 82 83 84 85 86	D2 D3 D4 D5 D6 D7	I/O	MODEM PSRAM ROM	Data Bus (bit 0~7)
87	nCSMD	O	MODEM	Chip Select Signal
88 89 91 92 93 94 95 96 97 98 99 101 102 103 104 105 106	LA0 LA1 LA2 LA3 LA4 LA5 LA6 LA7 LA8 LA9 LA10 LA11 LA12 LA13 LA14 LA15 LA16	O	MODEM PSRAM ROM	Address Bus (bit 0~4) to MODEM Address Bus (bit 0~16) to PSRAM & ROM
107	nWRF	O	PSRAM	Write Enable Singal
108 109	nCSPRAM1 nCSPRAM2	O	PSRAM	Chip Select Signal
111	nRFSH	O	PSRAM	Output Enable Signal

Type V --- Voltage (Power), T --- Test Input, AI --- Analog Input
 I --- Input, O --- Output, I/O --- Input & Output
 Name "n" --- Low active, "p" --- High active

Pin Assignment Table of DZZSP58021 (FPU) (4/4)

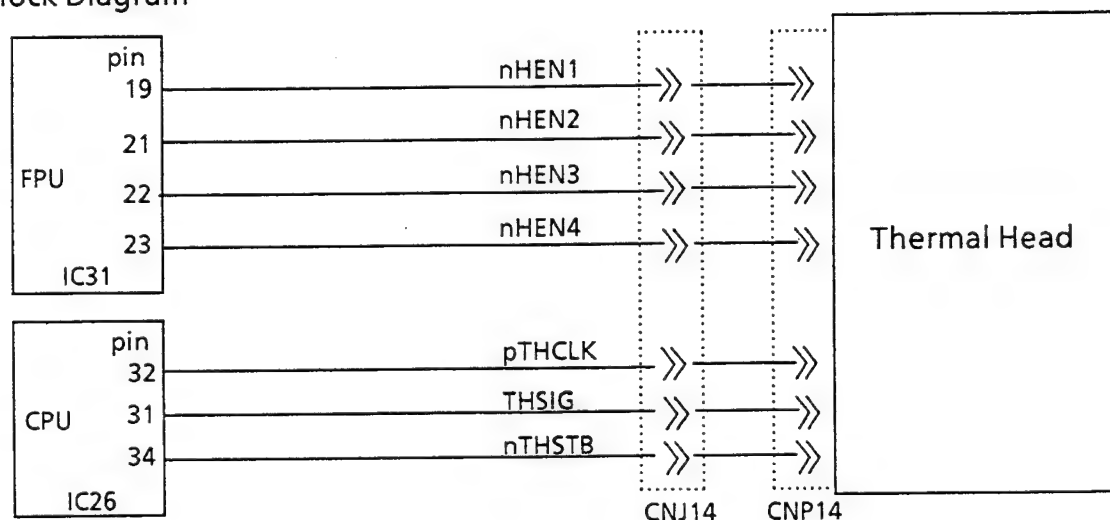
No.	Name	Type	Connection	Description
112 113 114 115 116 117 118 119 120	MA0 MA1 MA2 MA3 MA4 MA5 MA6 MA7 MA8	O	DRAM	Address Bus (bit 0~8) to DRAM
122	nWAIT	O	CPU	WAIT Request from the FPU(DMAC)
123	nCAS	I	CPU	DRAM refresh signal
124	nWRC	I	CPU	WRITE enable signal
125	nRDC	I	CPU	READ enable signal
126	nRAS	I	CPU	DRAM refresh signal
127 128 129 131	A19 A18 A17 A16	I	CPU	Address Bus (bit 16~19) - Extended Address Bus
132 133 134 135 136 137 138 139	A15 A14 A13 A12 A11 A10 A9 A8	I	CPU	Address Bus (bit8~15) - Upper 8 bits of the Address Bus
141 142 143 144 145 146 147 148	AD7 AD6 AD5 AD4 AD3 AD2 AD1 AD0	I/O	CPU, DRAM	Address Bus (bit 0~7) & Data Bus (bit 0~7) •connected to AD0 AD7 of CPU • input of low 8-bit address bus • input & output of data to /from CPU,DRAM
149	ALE	I	CPU	Address Latch Enable (AD0~ AD7)
151 152	nCPUCK pCPUCK	O	CPU	CPU System Clock (TTMINT H = 12MHz(Standard) ,L = 24MHz)
153	TEST		NC	
154	TRESET		NC	
155	TTMINT		NC	Clock Select for CPUCK
156 157 158	TEST1 TEST2 TEST3		NC	
159	TMINT	O	CPU	Interrupt request (rising edge)
160	nSYRST	I	CPU Reset IC	System Reset Signal & Back up enable signal

Type V --- Voltage (Power), T --- Test Input, AI --- Analog Input
 I --- Input, O --- Output, I/O --- Input & Output
 Name "n" --- Low active, "p" --- High active

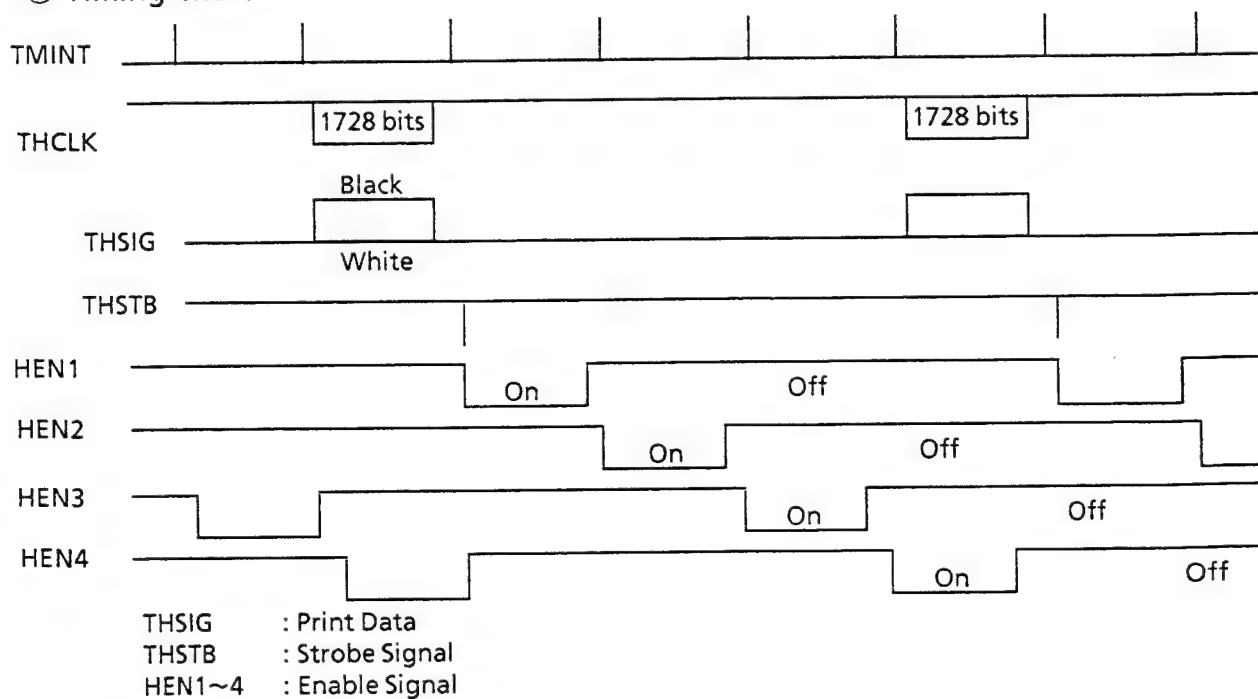
6.4.4 Thermal Head Drive Circuit

The CPU outputs print data, clock and strobe pulses while the FPU outputs enable signals. Enable signals cause current to flow through the thermal head. The pulse width of the enable signal varies to an appropriate value in accordance with the thermal head temperature.

① Block Diagram

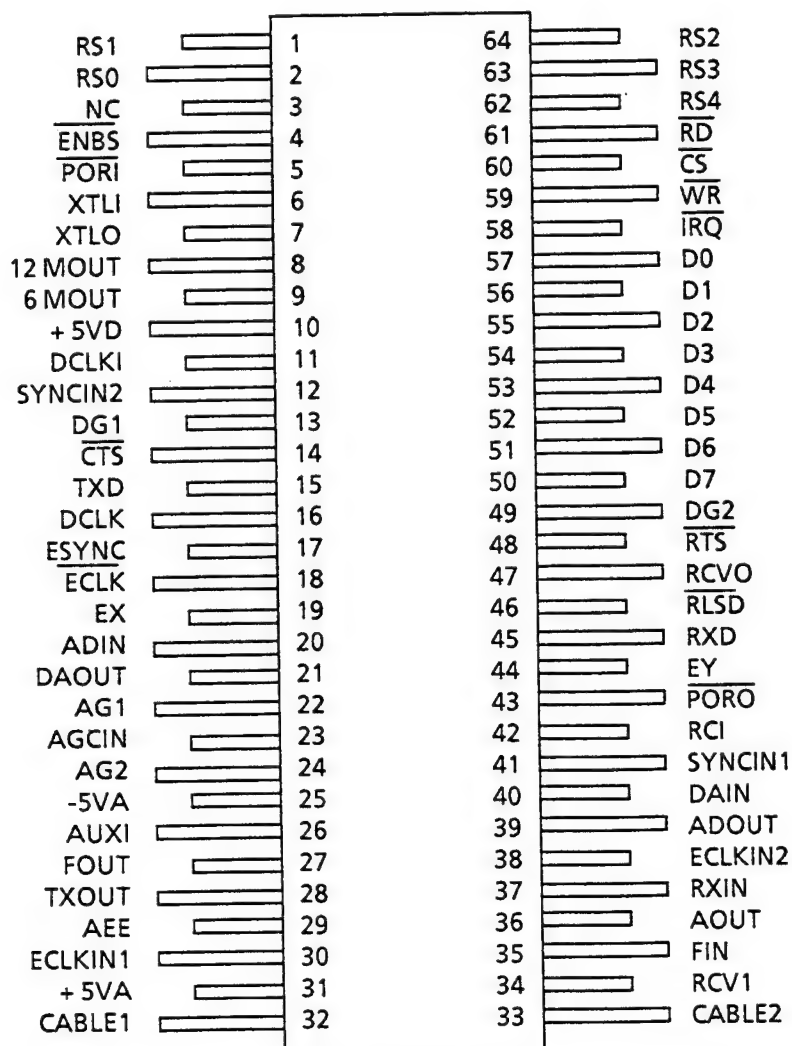


② Timing Chart



6.4.5 Digital Modem (R96EFX)

The Rockwell R96EFX MONOFAX is a synchronous 9600 bits (bps) half-duplex modem with error detection in a single 64-pin quad-in-line package (QUIP). The R96EFX can operate over the public switched telephone network (PSTN) through line terminations provided by a data access arrangement (DAA). The modem satisfies the telecommunications requirements specified in CCITT recommendations V.29, V.27 ter, V.21 Channel 2, T.3 and T.4 and the binary signaling requirements of T.30. The R96EFX can operate at speeds of 9600, 7200, 4800, 2400 and 300 bps.



R96EFX Pin Assignments

Signal Symbol Explanation : --- Low Active (Eg. $\overline{\text{RTS}}$)
: (No mark) --- High Active

(Signal table on following page.)

R96EFX Hardware Interface Signals

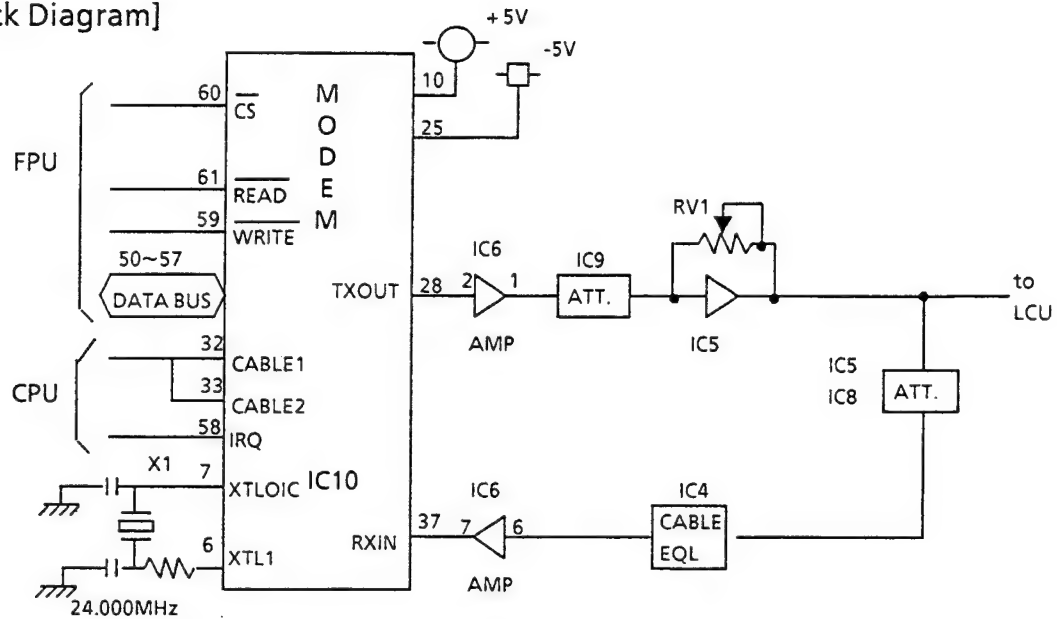
Name	Type	Pin No.	Description
AG1	GND	22	Connect to Analog Ground
AG2	GND	24	Connect to Analog Ground
DG1	GND	13	Connect to Digital Ground
DG2	GND	49	Connect to Digital Ground
+5VA	PWR	31	Connect to Analog +5V
+5VD	PWR	10	Connect to Digital +5V
-5VA	PWR	25	Connect to Analog -5V
D7	I/O	50	Data Bus Line 7
D6	I/O	51	Data Bus Line 6
D5	I/O	52	Data Bus Line 5
D4	I/O	53	Data Bus Line 4
D3	I/O	54	Data Bus Line 3
D2	I/O	55	Data Bus Line 2
D1	I/O	56	Data Bus Line 1
D0	I/O	57	Data Bus Line 0
RS4	I	62	Register Select 4
RS3	I	63	Register Select 3
RS2	I	64	Register Select 2
RS1	I	1	Register Select 1
RS0	I	2	Register Select 0
\overline{CS}	I	60	Chip Select
\overline{RD}	I	61	Read Strobe (808X) $\Phi 2$ Clock (65XX)
\overline{WR}	I	59	Write Strobe (808X) R/W (65XX)
IRQ	O	58	Interrupt Request
\overline{RTS}	I	48	Request to Send (D.N.C.)
\overline{CTS}	O	14	Clear to Send (D.N.C.)
TXD	I	15	Transmit Data (D.N.C.)
RXD	O	45	Received Data (D.N.C.)
\overline{RLSD}	O	46	Received Line Signal Detected (D.N.C.)
DCLK	O	16	Transmit and Received Data Clock (D.N.C.)
CABLE1	I	32	Cable 1
CABLE2	I	33	Cable 2

Name	Type	Pin No.	Description
TXOUT	O	28	Connect to Smoothing Filter Input
RXIN	I	37	Connect to Anti-aliasing Filter Output
AUXI	I	26	Auxiliary Analog Input
\overline{PORO}	O	43	Power-On-Reset Output
\overline{OPRI}	I	5	Power-On-Reset Input
DCLKI	R	11	Connect to DCLK
ECKLIN1	R	30	Connect to EYECLK
ECLKIN2	R	38	Connect to EYECLK
SYNCIN1	R	41	Connect to EYESYNC
SCYNIN2	R	12	Connect to EYESYNC
XTLI	I	6	Connect to Crystal Circuit or Oscillator
XTLO	R	7	Connect to Crystal Circuit or Float
12MOUT	O	8	12MHz Output (D.N.C.)
6MOUT	O	9	6MHz Output (D.N.C.)
RCVI	R	34	Connect to RCVO
RCVO	R	47	Mode Select Output
ADIN	R	20	Connect to ADOUT
ADOUT	R	39	ADC Output
DAIN	R	40	Connect to DAOUT
DAOUT	R	21	DAC/AGC Output
\overline{ENBS}	R	4	Connect to Register for Bus Selection
AEE	R	29	Connect to Analog Ground
AGCIN	R	23	AGC Input
AOUT	R	36	Smoothing Filter Output
FIN	R	35	Connect to FOUT
FOUT	R	27	Smoothing Filter Output
RCI	R	42	RC Junction for POR Time Constant
	R	3	(D.N.C.)
EX	O	19	Test (D.N.C.)
EY	O	44	Test (D.N.C.)
\overline{ECLK}	O	18	Test
ESYNC	O	17	Test

I = Input
 O = Output
 R = Required overhead connectors;
 no connection to host equipment
 D.N.C. = Do Not Connect

6.4.6 Modem Peripheral Circuit

[Block Diagram]



(1) Transmitting signal processing circuit

This circuit consists of analog switch (IC9), operational amplifiers (IC5 and IC6) and their peripheral circuits.

The digital coded data (8 bit parallel data) is supplied to the modem. The transmission signal (TXOUT) is modulated in the modem then passes through the operation amplifier IC6 and its peripheral circuit. The attenuator circuit consisting of IC9 and its peripheral circuit, fine level adjustment circuit (IC5) and its peripheral circuit and then to the line transformer (T1) on the LCU PC Board.

The transmission level can be set from 0 to -15 dBm with a step of 1dB by using the attenuator circuit (0, 4, 8, and 12 dB) consists of IC9 and the attenuator circuit (0, 1, 2, and 3 dB) in the modem. The fine adjustment of the transmission level can be made by tuning RV1 of the fine level adjustment circuit.

(2) Receiving signal processing circuit

This circuit consists of IC4, IC5, IC6, IC8 and their peripheral circuits.

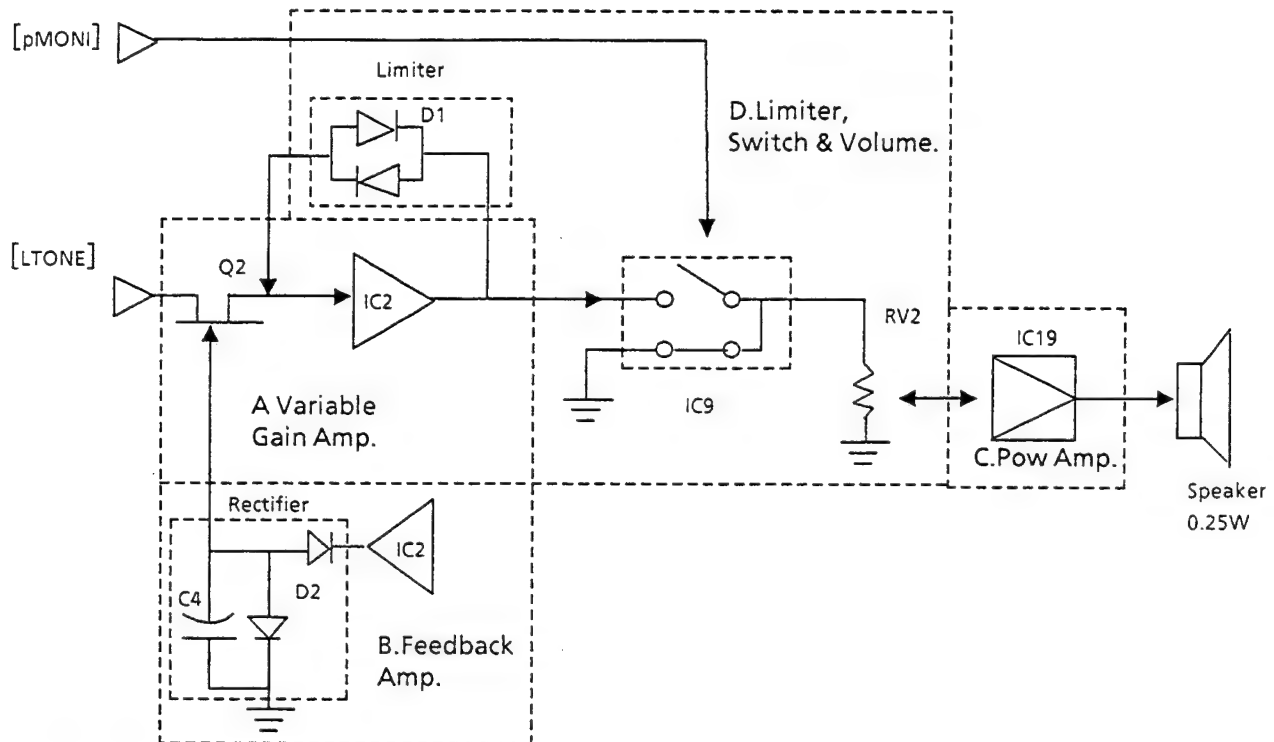
The reception signal passes through the CML relay contact and line transformer (T1) in the LCU block enters the reception attenuator circuits. A reception attenuator circuit is composed of IC8 (input to pin 2), IC8 and it's peripheral circuits which attenuate the input level of the modem when the level of the line is high. The level can be set to 0 or 10 dB.

IC4 (input to pin 2) and its peripheral circuit construct an amplitude equalizer circuit (cable equalizer) which is able to correct an amplitude distortion of 6 km equivalent to 0.5 mm cable. This can be enabled or disabled by using analog switch (IC8).

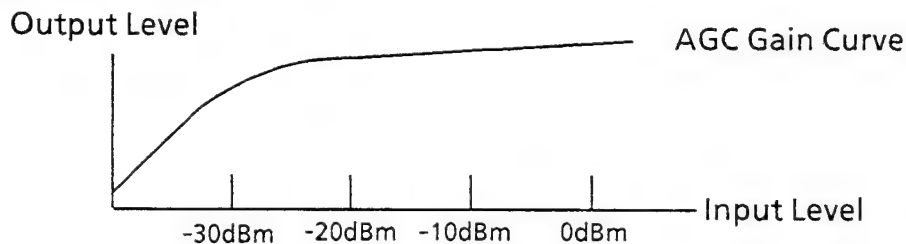
The reception signal further passes through the operation amplifier IC6 and peripheral circuit and then (RXIN) is inputted to the modem.

6.4.7 Monitoring Circuit

(1) Block Diagram



(2) AGC Gain Curve



(3) Operation

The monitoring circuit monitors voice signals on the line through a speaker. With this function, not only voice but also dial tone and busy tone during dialing can be monitored. The circuit incorporates an automatic gain control (AGC) function so the monitor level is stable regardless of the input level.

The monitoring circuit consists of the following blocks.

- A. Variable Gain AMP block
- B. Feed Back AMP block
- C. Power AMP block
- D. Limiter, Switch & Volume block

The Feed Back AMP block converts the output from the Variable Gain AMP block to a direct current level and then supplies it to the gate terminal of the FET in the Variable Gain AMP block. This feedback loop enables automatic gain control; high gain for a small input and low gain for a large input. The Limiter, Switch & Volume block controls to limit an excessive input, to enable/disable the monitor circuit and to allow monitor level adjustment by the operator. The Power AMP block drives the speaker (0.25W).

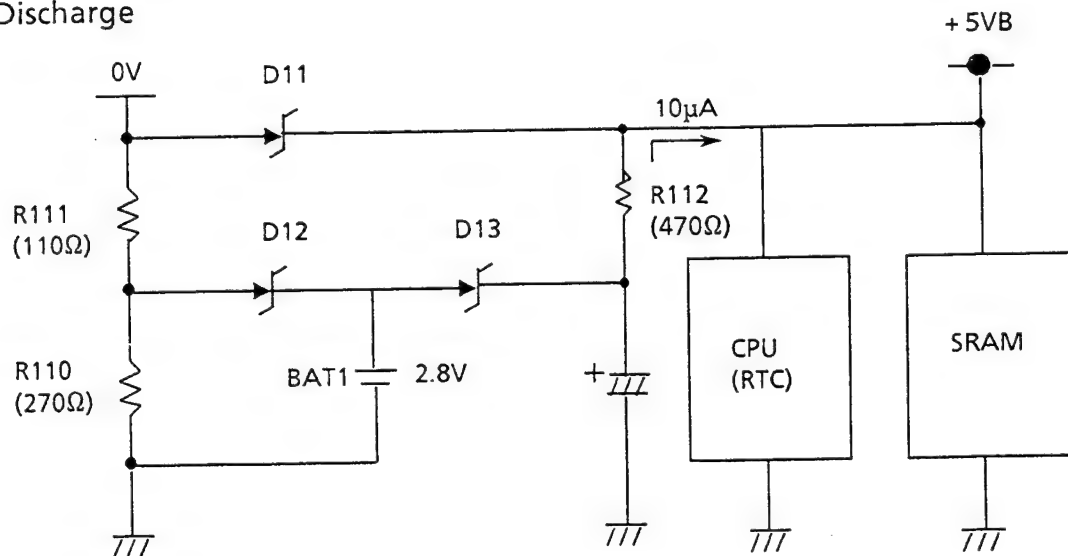
6.4.8 Battery Backup Circuit

The circuit consists of BAT1, D11, D12, D13, R110, R111 and R112. The battery is Vanadium - Lithium type.

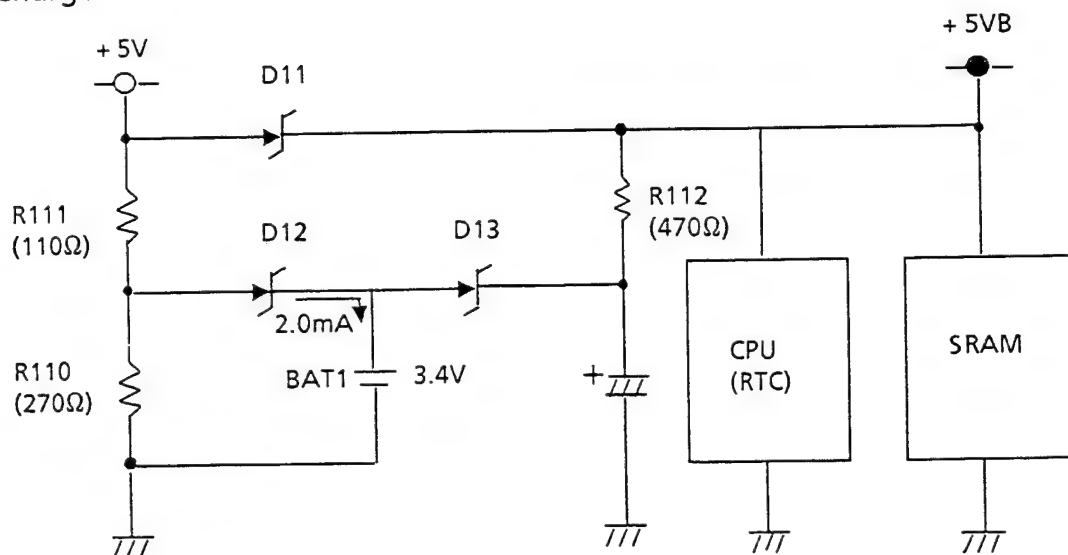
During a power interruption, the battery backup circuit supplies current to retain data such as registered telephone numbers, parameter settings and clock function. A fully charged battery can supply enough current for about 14 days if power is interrupted.

At installation, it is recommended to charge the battery continuously for at least 2 days. Charge and discharge diagrams are illustrated as below.

Discharge

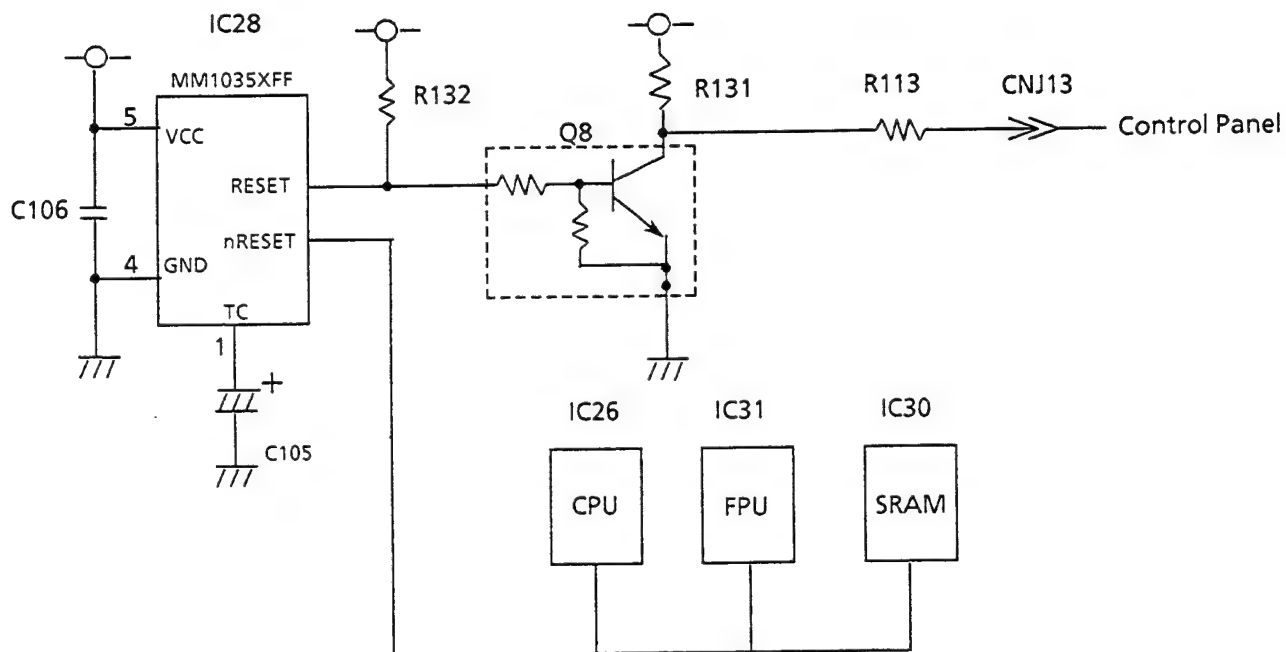


Charge

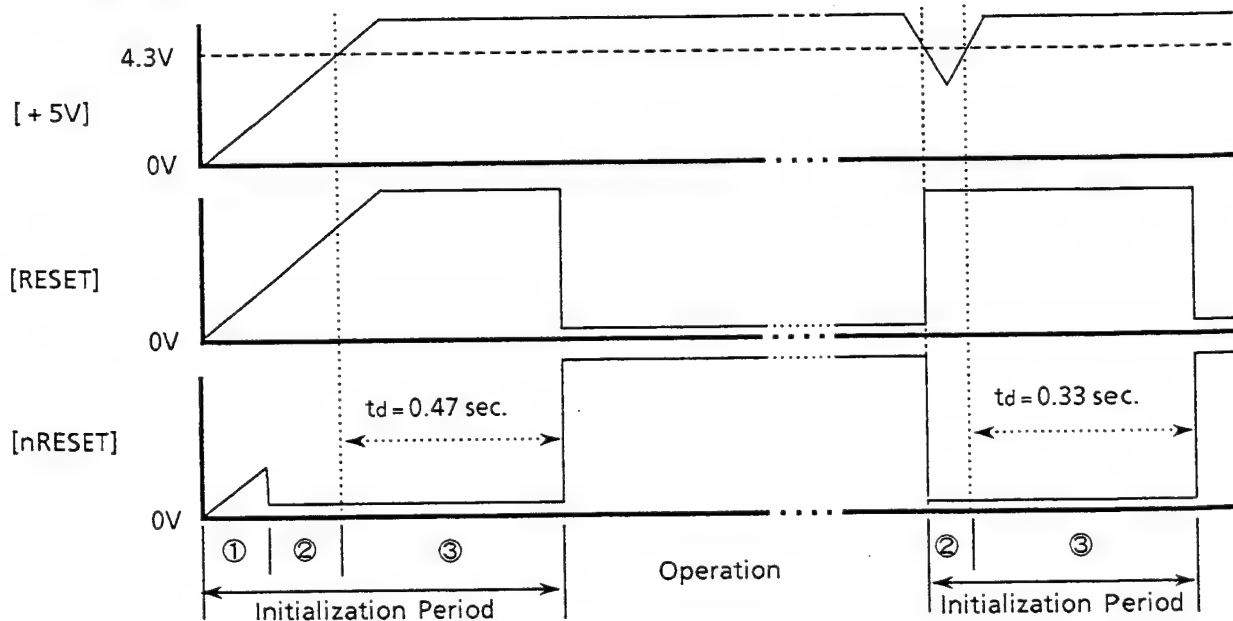


6.4.9 Reset Circuit

(1) Block Diagram



(2) Timing Chart



① Unstable Status ② +5V lower than limit ③ Delay

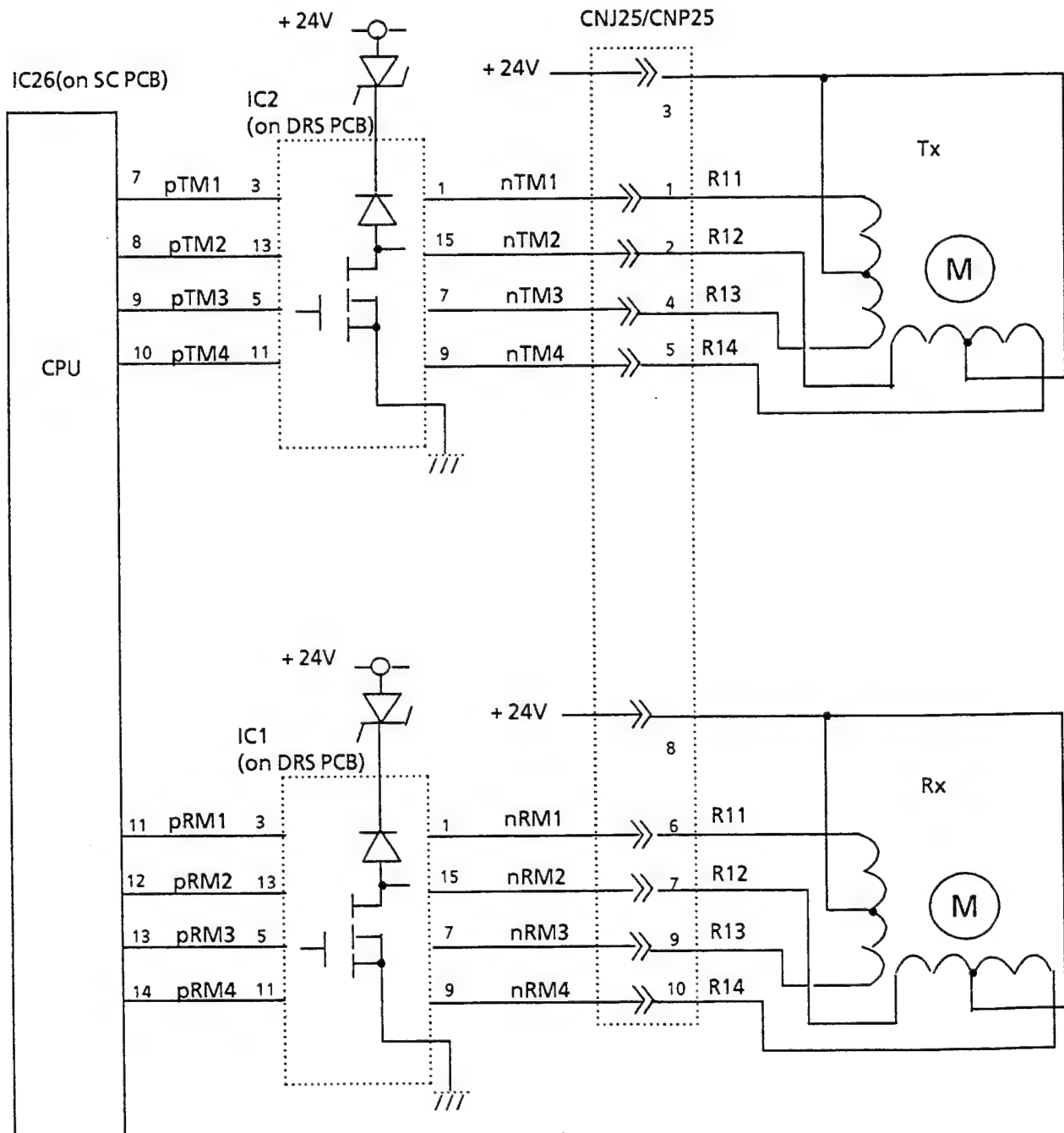
(3) Operation

This circuit initializes all circuits involving LSI to stabilize the machines operation, when main power is supplied. The circuit monitors the voltage of +5V from the power supply unit. As the voltage of +5V decreases and falls below. +4.3V, the reset signal, nRESET, is generated for 0.47 second. After nRESET becomes disabled, the +5V output has been stabilized and thus the machine operation is secured when main power is on. The circuit also detects voltage drops and generates nRESET for 0.47 seconds to initialize all circuits. The duration of t_d depends on capacitor C105.

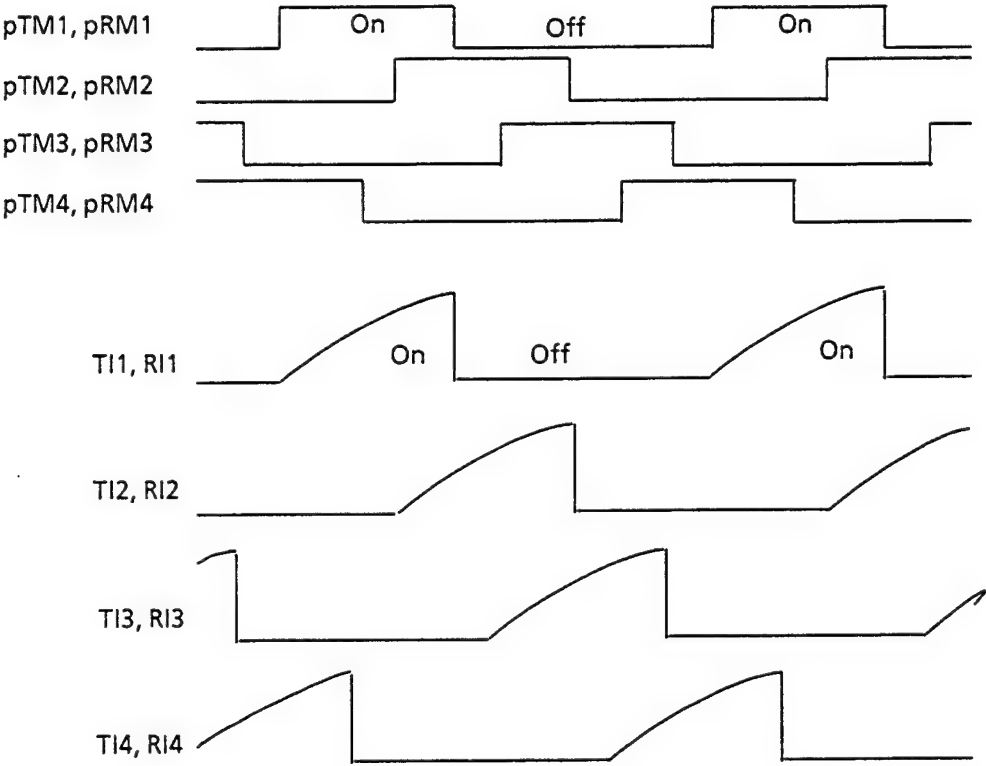
6.4.10 Motor Drive Circuit

To feed document and recording paper, two 4-phase stepping motor is employed. The motor driving method is a 1-2 phase exciting type. The driving signal is generated by the CPU. Refer to the block diagram and timing charts below.

(1) Block Diagram

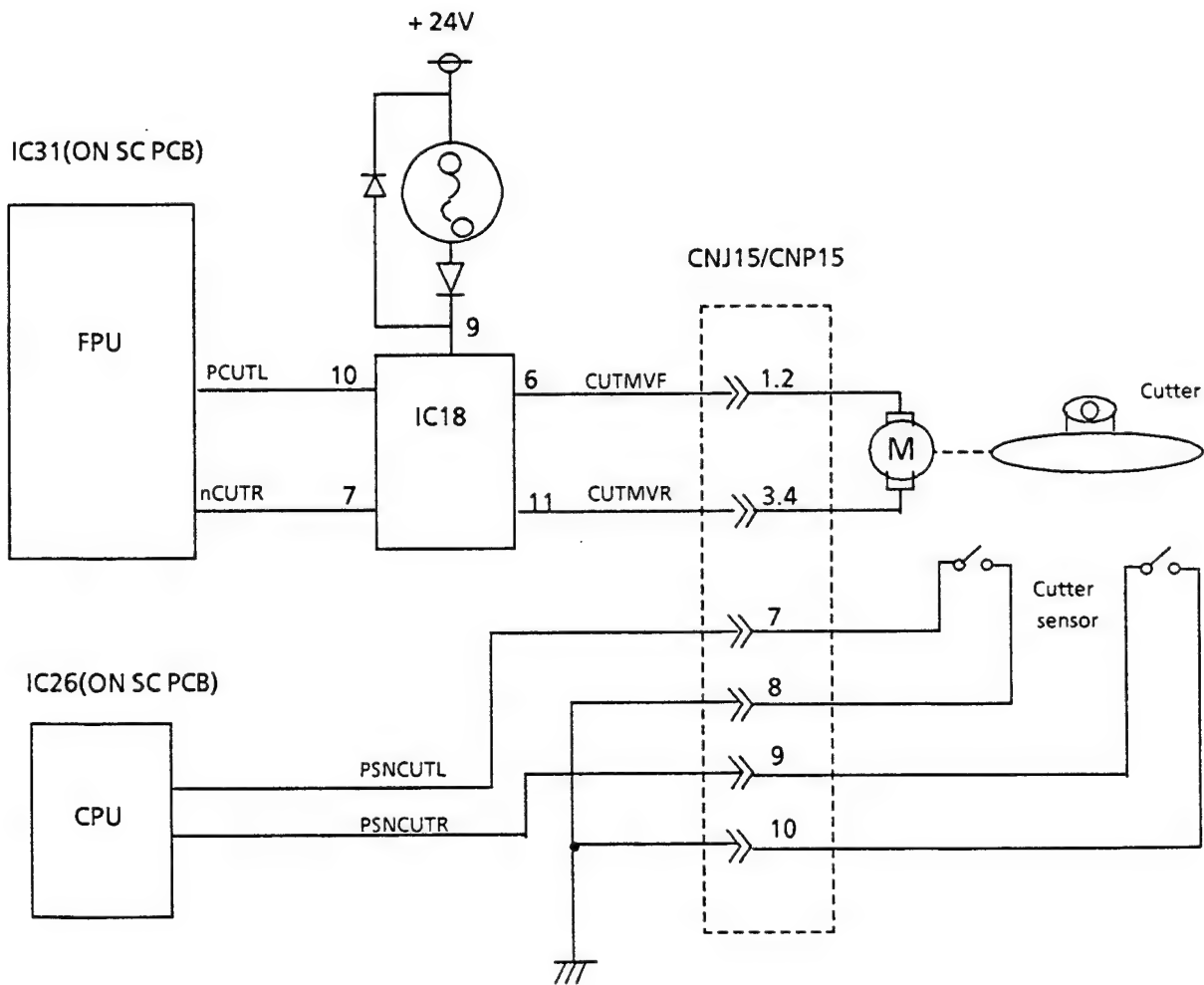


② Timing Chart



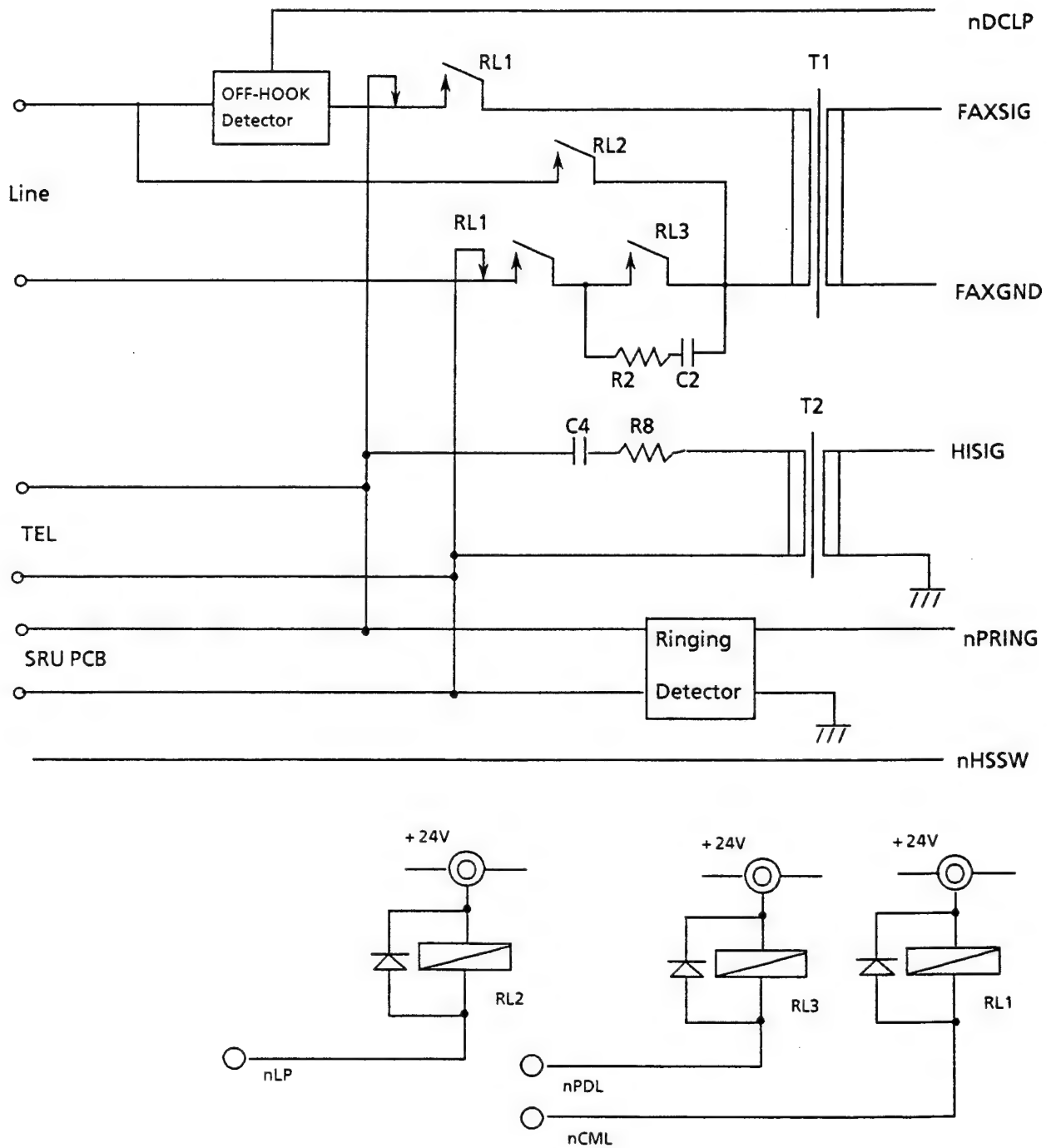
6.4.11 Cutter Motor Driving Circuit

The D.C. motor driving the paper cutter is controlled by a voltage of + 24V. The cutter's position is detected by two sensors mounted on top of the cutter unit at both ends. The D.C. motor rotates driving the belt mounted cutter in horizontal direction from left to right and then right to left. The direction of rotation is controlled by the output signal of the FPU (IC31). This signal drives the motor control IC (IC18) which then drives the motor in either direction.



6.5 LCU Circuit

6.5.1 Block Diagram

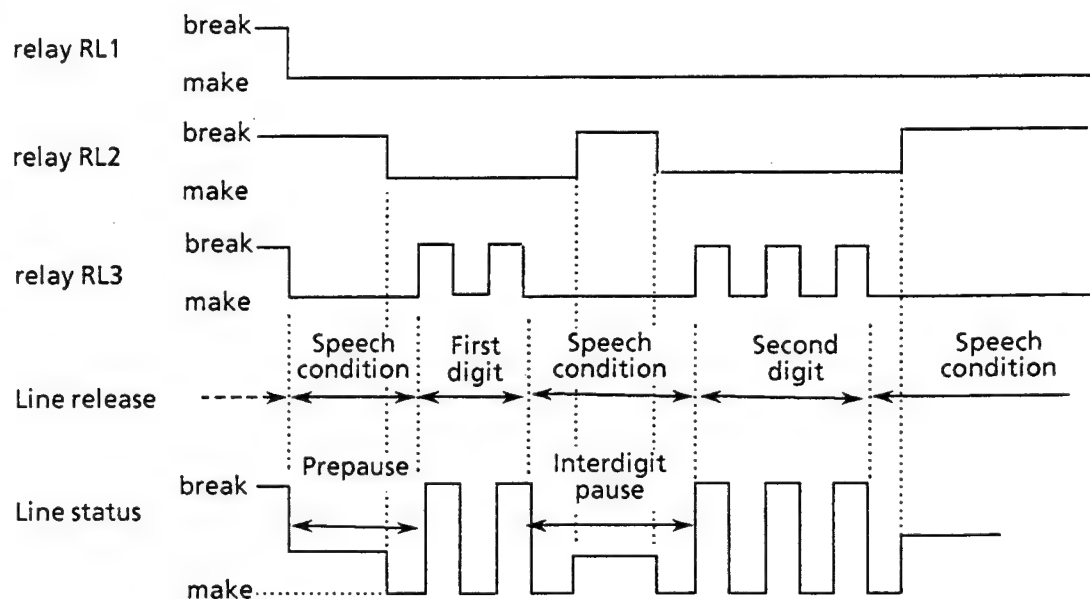


6.5.2 Off-hook Detector

The circuit consists of the photo coupler PC2 and the input port of IC26 (CPU). When PC2 detects loop current flow, it drives DCLP low. DCLP goes to the input port of the CPU. The CPU monitors DCLP for a while and then judges the off-hook condition.

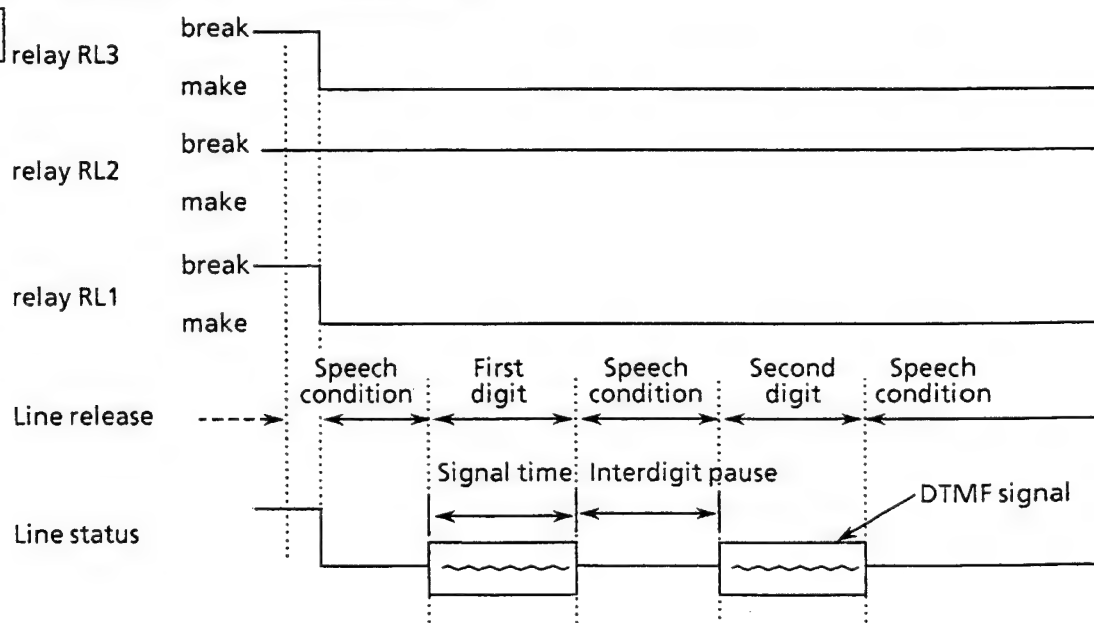
6.5.3 Timing Chart for Dial Pulse Generation

Dial Pulse



6.5.4 Timing Chart for DTMF Tone Generation

DTMF Tone



6.5.5 Dial Pulse Generator

The circuit consists of relays RL2, RL3 and its peripheral circuit and generates dial pulses. The CPU on the SC PC Board controls all dial pulse generation sequences. It turns relays RL1, RL2 and RL3 on and off through the FPU. The relay status during dialing is shown in diagram 6.5.3. The CPU turns RL1 on to develop loop status (DC loop). After 3.2 seconds prepause, CPU turns RL2 on and then turns RL3 on and off to generate dial pulses, making and breaking the loop.

6.5.6 CNG Tone Detector

This circuit consists of Transformer T2 and capacitor C4.

The circuit detects a CNG signal or a silence after a TAM (TAM with telephone) received call until releasing the line when TAM is connected to telephone line. If CNG signal or silence is detected, it will switch telephone line from TAM to FAX.

Detection of CNG signal is controlled by CPU on the SC PCB.

6.5.7 Ringing Detector

This circuit consists of photo coupler PC1, and its peripheral circuits. PC1 detects the incoming ringing signal and conveys it to IC1 on the SC PC Board. After IC1 rectifies the signal into a square wave, IC1 transfers it to IC26. The CPU observes the signal for a while to distinguish a real ringing signal from one caused by chattering.

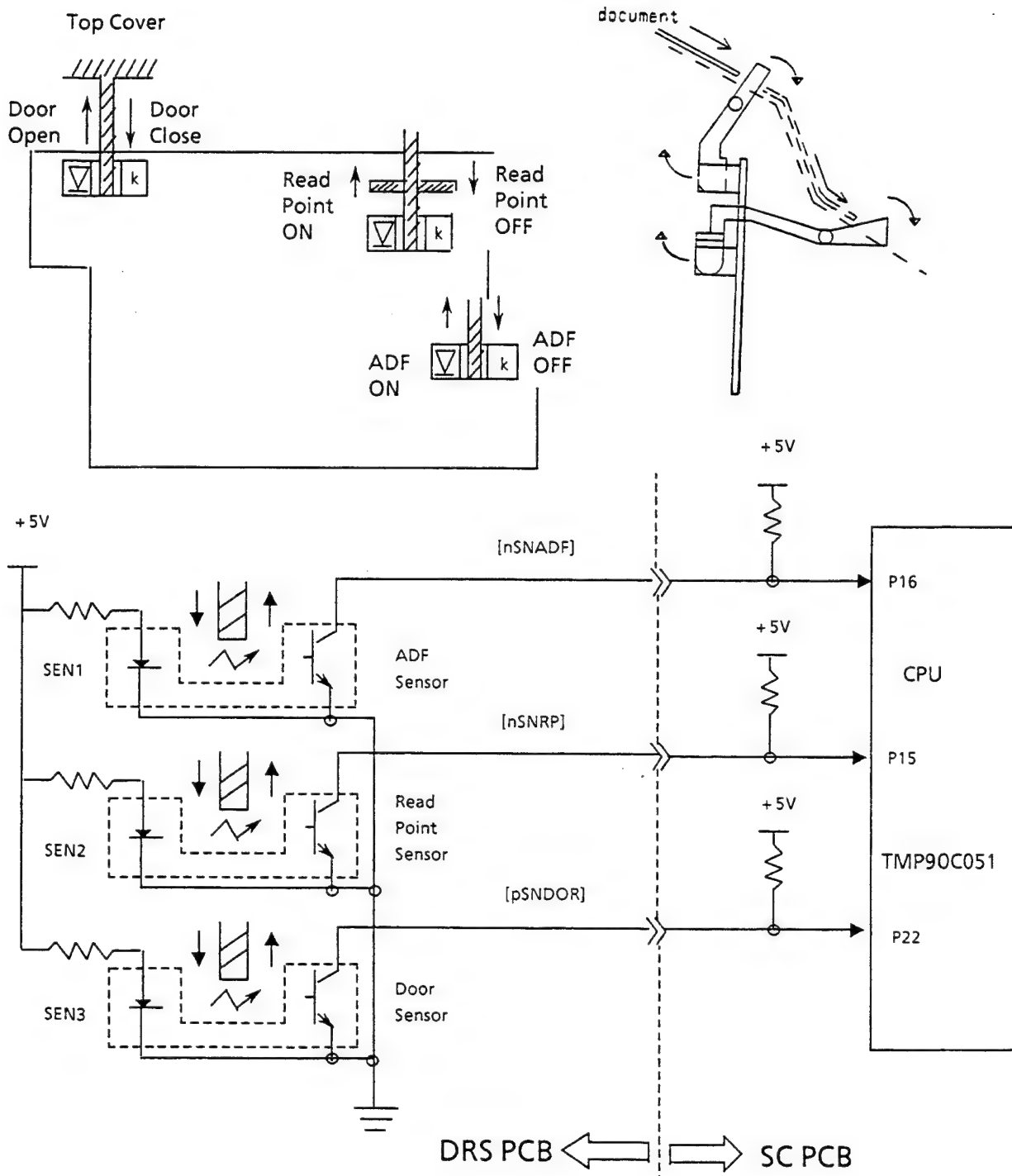
6.6 DRS PC Board

6.6.1 BLOCK DIAGRAM

(a) Motor Driver Block

See Chapter 6.4.10

(b) Sensor Block



6.6.2 Operation

(a) Motor Driver Block

See Chapter 6.4.10

(b) Sensor Block

DRS (Driver & Sensor) PCB

There are 3 sensors on the DRS PCB, as follows,

- ① ADF Sensor : Detects documents on the ADF tray.
- ② Read Point Sensor : Detects documents at the reading point.
- ③ Door Sensor : Detects OPEN / CLOSE status of the Front Cover.

Each sensor consists of an LED and a photo-transistor. The light from an LED in the sensor drives the photo-transistor "ON". Thus output voltage from the sensor goes "Low".

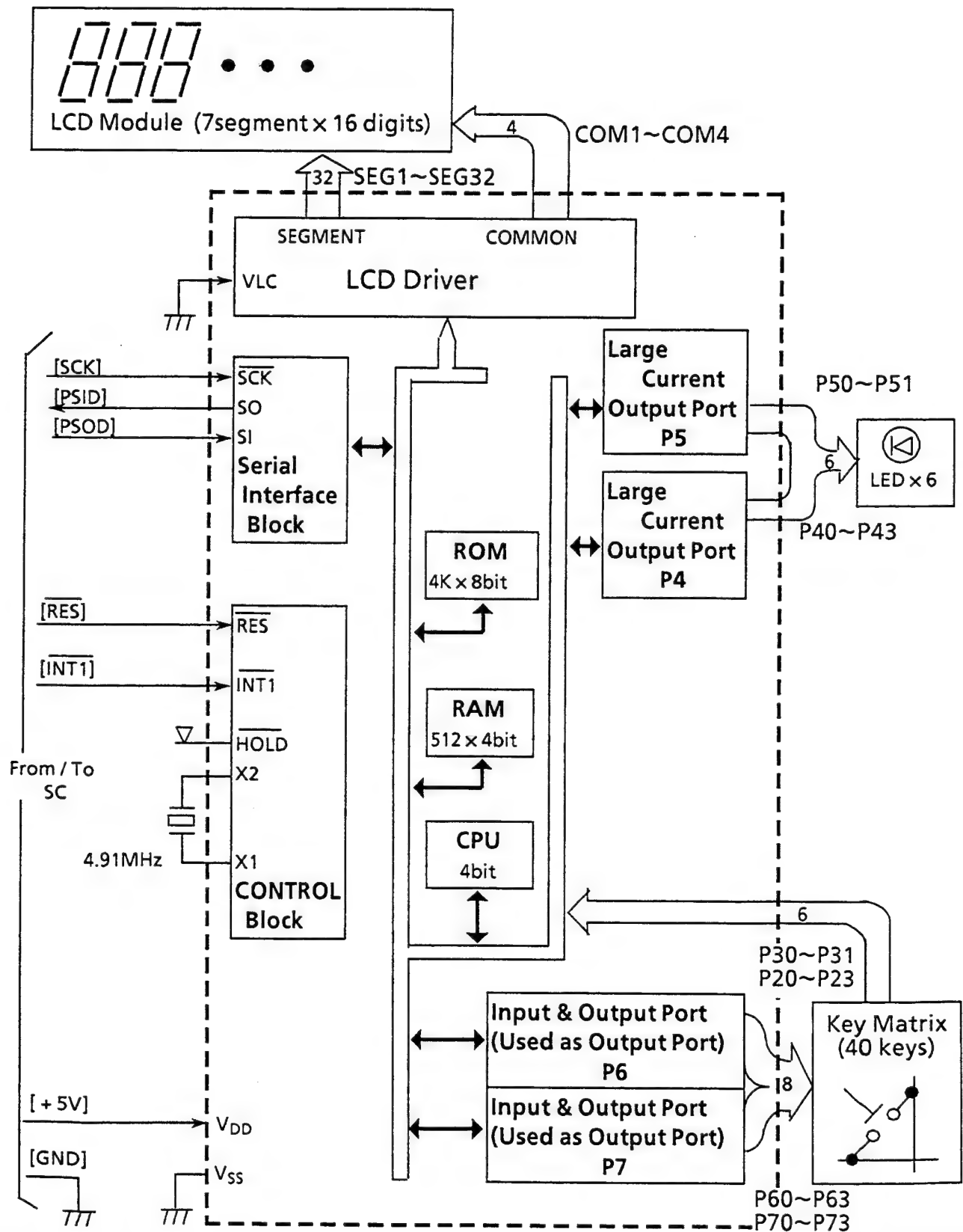
In case of no document on the ADF tray, shutter interrupts photo pass. (Photo-transmitter) .

Therefore output from the sensor is kept "High".

When there is no document on the ADF, the shutter obscures the photo transistor keeping the output from the sensor "High".

6.7 Control Panel

(1) Block Diagram



(2)Block Explanation

Control Panel Circuit is consisted of CPU interface, LCD control /driver,Key Matrix, LED driver, One - chip micro computer with built-in ROM (4K × 8bit) and RAM (512 × 4bit),Liquid Crystal Display and tact switch.

CPU interface SIO,SID are 8bits serial interface with 125KHz transfer clock. It transfers data between CPU and PCU synchronized with 2.5ms INT1 signal.

LCD is driving with one third bias (one fourth duty) method and frame frequency is 64Hz.

Displayed data is re-writing by synchronization of 2.5 ms clock.

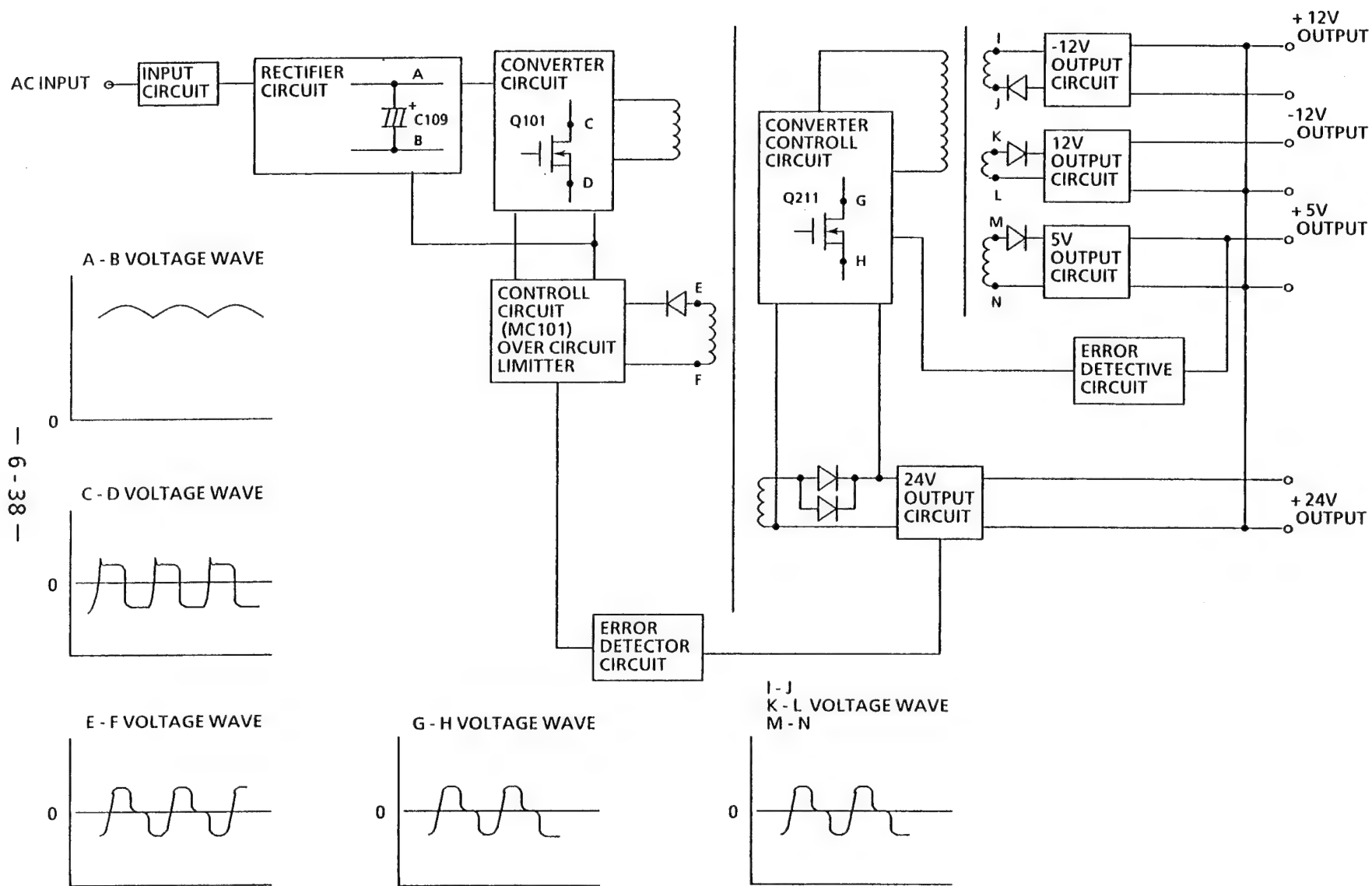
Key -scan for contact switch is sychronized with 2.5 ms clock.

LED lamps are turned on by O-port for large current in the PCU.

6.8 Power Supply Unit

6.8.1 Matsushita Type

(1) Block Diagram



(2) Circuit Composition of Each Block and Description of the Operation

(A) Input Circuit

AC power goes to input rectifier circuit through filter circuit and inrush limiter.

Filter circuit works for both decrease RFI noise and eliminate line transient noise.

(See circuit diagram attached)

(B) Rectifier Circuit

AC power is rectified by D101 and charge C109 to make high DC voltage, then supply power to converter circuit.

Kick-on voltage for control IC (MC101) is supplied AC power through R102, R103, R104, R113 to R116.

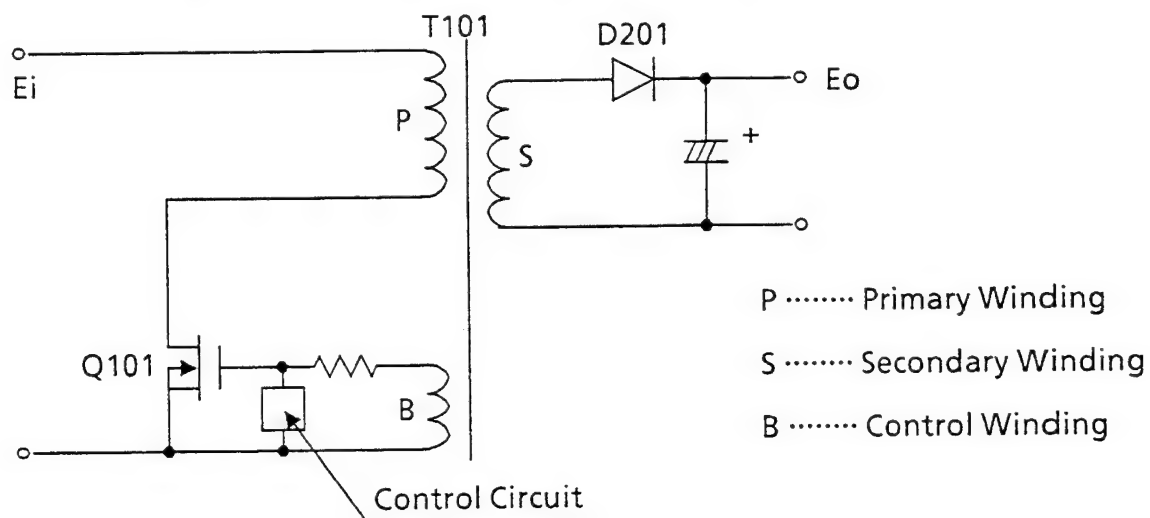
When turn-on, inrush current is limited by TH101.

(See circuit diagram attached)

(C) Converter Circuit

The converter circuit of this power supply is named : ringing choke converter (RCC) .

We explain the operation of this circuit with the brief circuit.



In the above circuit, when the transistor Q101 is on, secondary rectifier diode D201 is OFF and the energy is charged in the transformer T101. And Q101 continues being on for the voltage generated by control winding (B).

In the next, Q101 is turned OFF by control circuit, then each winding of T101 changes the polarity and rectifier diode D201 turns ON.

The charged energy of T101 supplies power through D201 to output load.

And the voltage of control winding is decreased and Q101 continues being OFF state.

When all energy is discharged through D201, Q101 kicks ON again and each winding of T101 changes polarity, and goes to self oscillation.

Operating frequency is high when input voltage Ei is high, and that is low when output current is much.

In the actual circuit, the fixed output voltages are got by changing the winding ratio of the transformer T101.

In this converter circuit, the output voltages are stabilized by the control which the duty ratio of ON period and OFF period of the transistor charges according to the output voltages.

In this power supply, the bias winding is also built-in in the transformer.

This power supply has four outputs,

- 24V output voltage is stabilized by setecting
- 24 output voltage and changing the duty ratio
- 5V is stabilized by control circuit same as 24V output
- 12V and -12V are stabilized by winding ratio

(D) Control Circuit And Error Detecting Circuit

The control circuit amplifies the output of which duty ratio is made according to the error voltage detected by the error detecting circuit, and drives the main transistor Q101. In this power supply, the method of changing the duty ratio is to change the ON period. It's as follows.

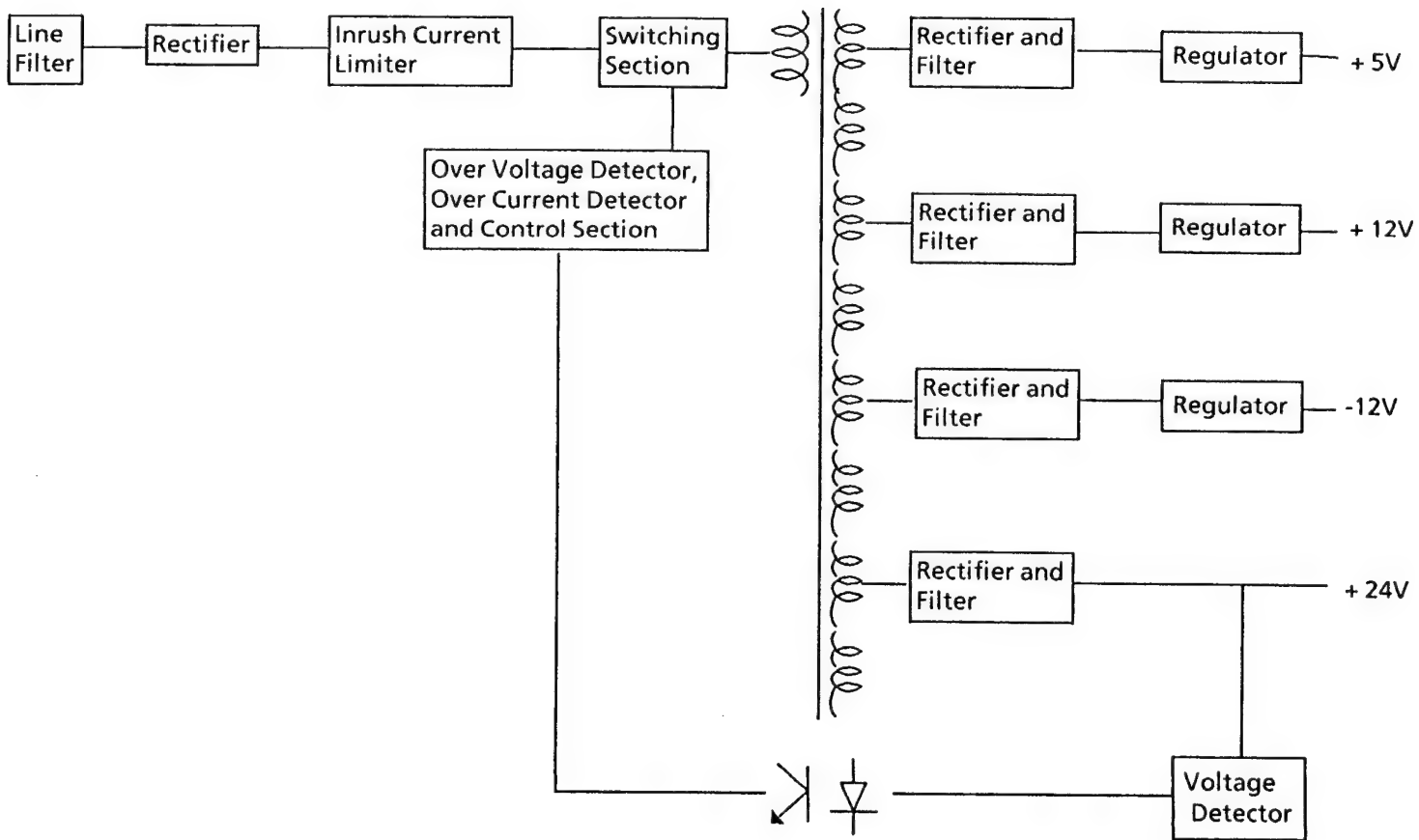
When the output voltage of 24V circuit becomes higher, the current of photo coupler PC101 increases, the pulse width of output of control IC (MC101) becomes narrow and ON period of Q101 becomes shorter. And this control IC (MC101) desides the minimum OFF period by itself. When the oscillation frequency becomes higher and OFF period becomes the minimum OFF period, the OFF period remains unchanged and only the ON period decreases. In this way, there is the upper limit of the oscillation frequency and the duty retio is expanded. (See circuit diagram attached.)

(E) Over Current Limitor (O.C.L.)

24V outputare limited by Ton MAX limitor (on time of transistor Q101) which provided inside control IC (MC101). (See circuit diagram attached.)

5V, 12V, -12V are limited by same as 24V output.

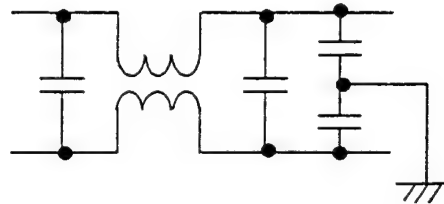
6.8.2 Sanken Type
(1) Block Diagram



(2) Circuit Composition Of Each Block and Description Of the Operation

(A) Input Filter Circuit

AC line voltage goes to rectifying circuit through the line filter.
The line filter interrupts noise which try to go out to AC line from power supply unit and protects power supply unit from spike voltage which try to go into the unit from AC line.



(B) Rectifying and Smoothing Circuit

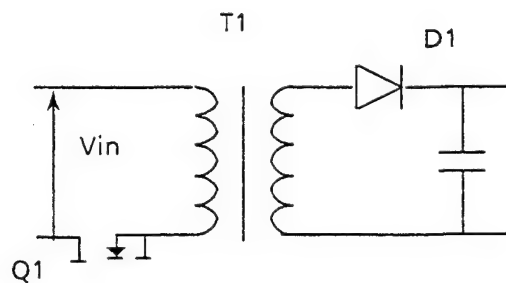
As soon as energy is supplied to the power supply unit, AC line voltage is rectified by rectifier RC1 consists of 4 diodes.
The output from RC1 is smoothed by capacitor C7.

(C) Inrush Current Protection Circuit

When the capacitor C5 is not charged by AC input, inrush current appears at the input side.
The thermistor TH1 limits the inrush current.

(D) Switching Circuit

The basic circuit is shown on the right side.
When the main switching element Q1 is turned on, the input voltage V_{in} is impressed to the primary winding of the transformer T1.
However, no current will flow through the diode D1 of the secondary side due to reverse polarity of the secondary winding causing no power transmission within T1 but accumulation of the energy supplied to the primary winding.
Then, as soon as Q1 is turned off, the power supply to the primary winding will be shut off, allowing D1 to conduct to release the energy accumulated in T1 to the out side.



(E) Secondary Circuit

+ 5V, + 12V and -12V circuits are stabilized by regulator IC Z51, Z52 and Z53.
+ 24V circuit that is main circuit is stabilized by feed-back to the primary side.

(F) Protective function

a) Protection Against Over Current

+ 24V output is done by detecting the voltage of R9 caused by the source current of main transistor Q1. The voltage at R9 is compared with the reference voltage produced in Z1. If the voltage V_{r9} is higher than the reference voltage transistor Q1 is switched off. Then the detecting circuit operates to shut down the main converter. AC input can be shut off once and reset to recover power.

+ 5V, + 12V and -12V circuits are protected by the circuit inside of the regulator IC .

b) Protection Against Over Voltage

In case + 24V output should increase abnormally, the detecting circuit operates to shut down the main converter. AC input can be shut off once and reset to recover power.

6.9 TAM I / F

The TAM Interface is designed for connection of a Telephone Answering Machine, which is owned by the user. This Interface automatically switches the telephone line between the Fax machine and the Telephone Answering Machine.

Fax / Telephone Automatic Switching is used when a Telephone Answering Machine is not connected.

The UF-128M determines if the calling party is a Fax machine or an operator.

If calling party is a Fax machine, the machine proceeds to the Fax communication procedure.

If the calling party is an operator, the machine makes the operator call tone through the built-in buzzer.

6.9.1 System Construction

Construction of this system is shown in Fig. 6.9.1

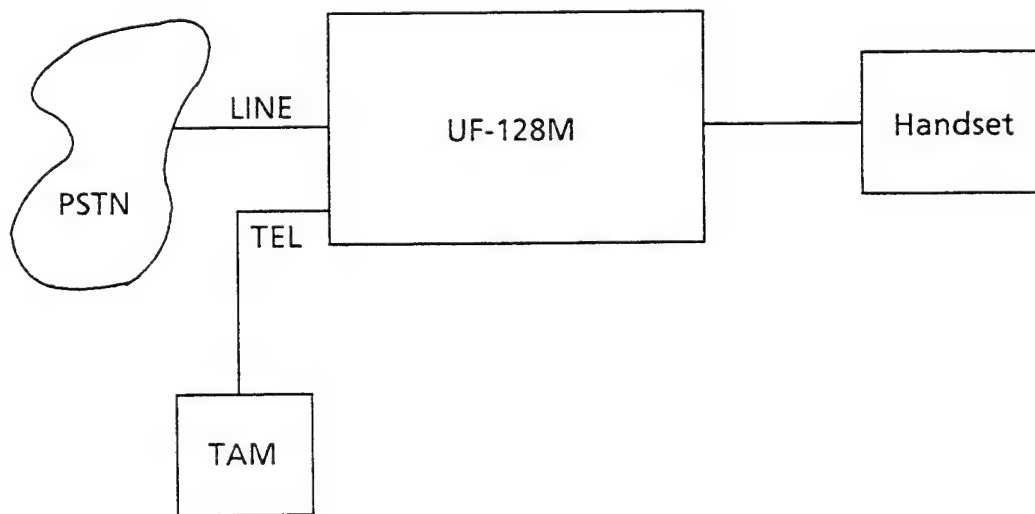


Fig. 6.9.1 System Construction

6.9.2 Operation Mode

The operation mode can be selected to answer an incoming call by a combination of the FAX / Telephone key on the Control Panel and Fax Parameter #37.

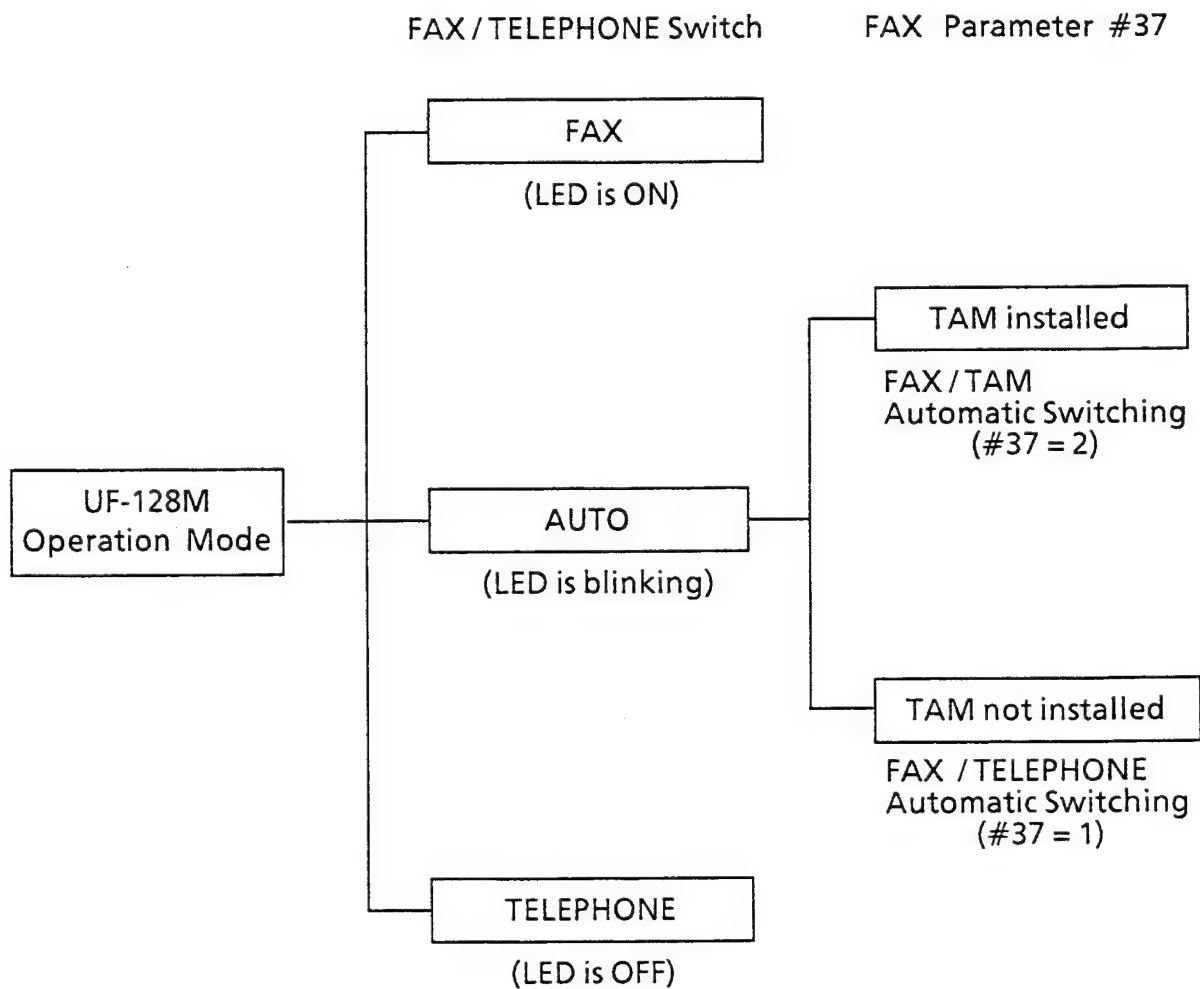


Fig. 6.9.2

6.9.2.1.TAM Interface Mode

Setting : Reception Mode = Auto and Fax Parameter #37 = 2 (TAM connected)

In this mode, the TAM answers first, then the UF-128M will monitor signals on the telephone line.

If CNG signal is detected, Fax communication will begin.

a) In the case the Calling party is an operator.

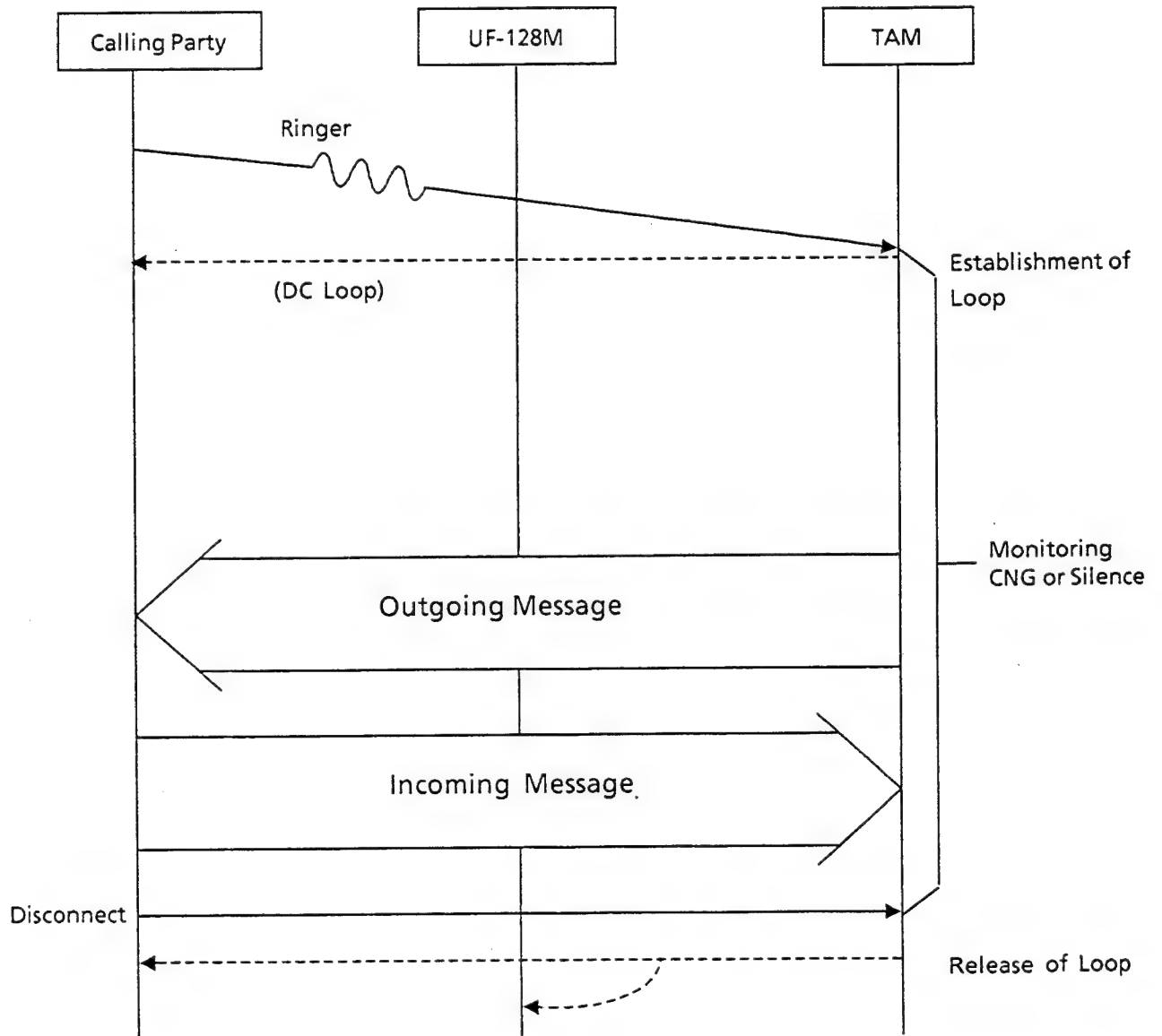


Fig. 6.9.3

Fig. 6.9.3 shows operational sequence if calling party is an operator.

If neither a CNG or a Silence period is detected, the TAM will be connected until the end of this sequence.

b) In the case the Calling party is a Fax machine.

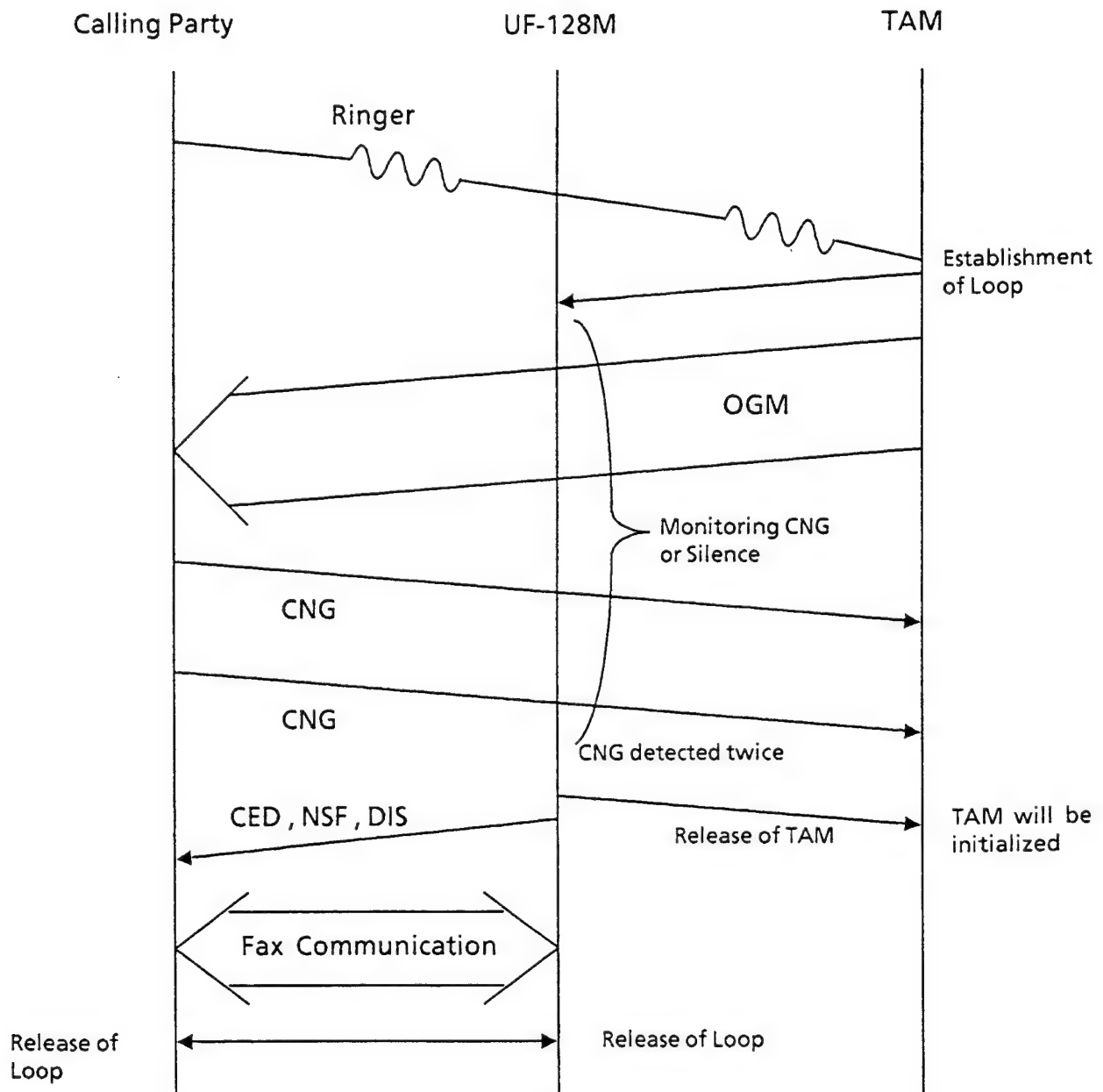


Fig. 6.9.4

Fig. 6.9.4 shows operational sequence in the case of the calling party being a Fax machine. After a CNG signal is detected, the UF-128M starts Fax communication. If calling Fax machine does not send CNG signal, the UF-128M detects a silence period and Fax communication will begin.

c) In case TAM does not answer.

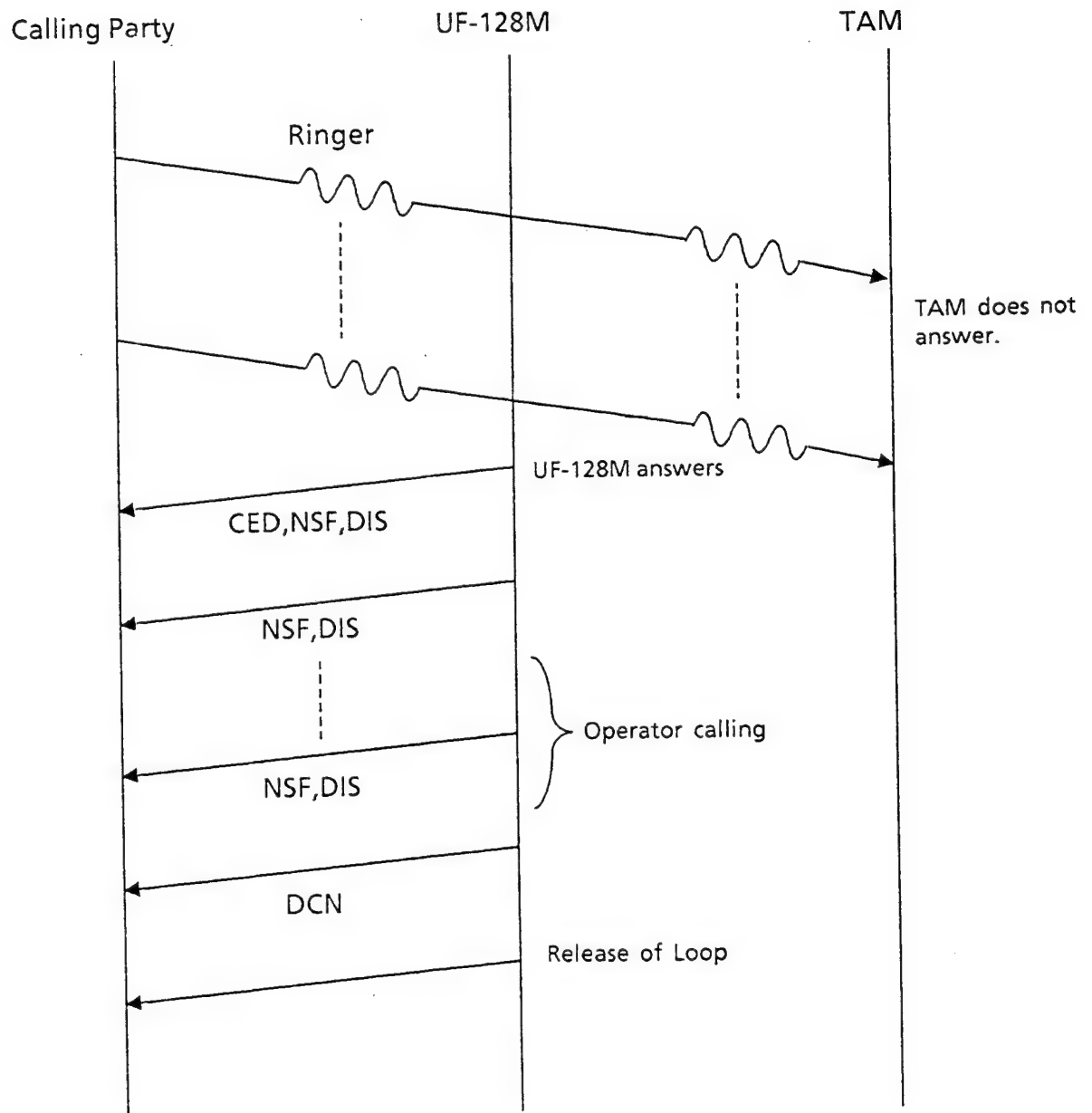


Fig. 6.9.5

Fig. 6.9.5 shows operational sequence in the case of a TAM not answering. If the calling party is a fax machine, the UF-128M will answer after 8 rings and send a fax communication signal (CED, NSF, DIS ...).

6.9.2.2. FAX / TELEPHONE Automatic Switching

Setting : Reception Mode = Auto and Fax Parameter #37 = 1 (TAM not connected)

Fax / Telephone Automatic Switching Mode is used when TAM is not connected.

In this mode, UF-128M establishes Loop.

The UF-128M determines if calling party is a Fax machine or an operator by checking for a CNG signal.

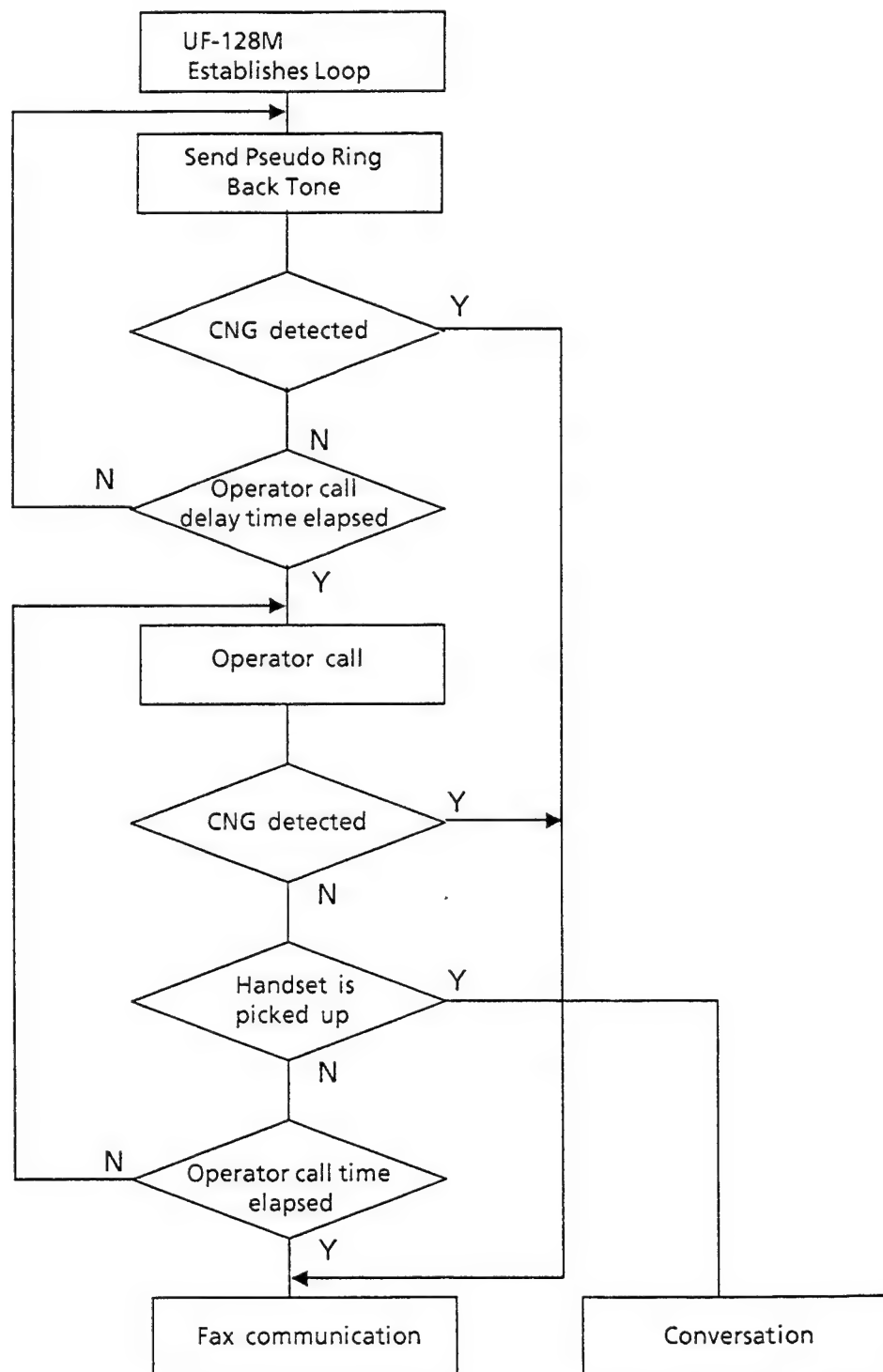


Fig. 6.9.6

Fig. 6.9.6 shows Fax / Telephone mode flow chart.

If CNG is detected, the UF-128M proceeds to Fax communication procedure.

If CNG is not detected, the UF-128M will generate an operator call tone.

a) If calling party is an operator

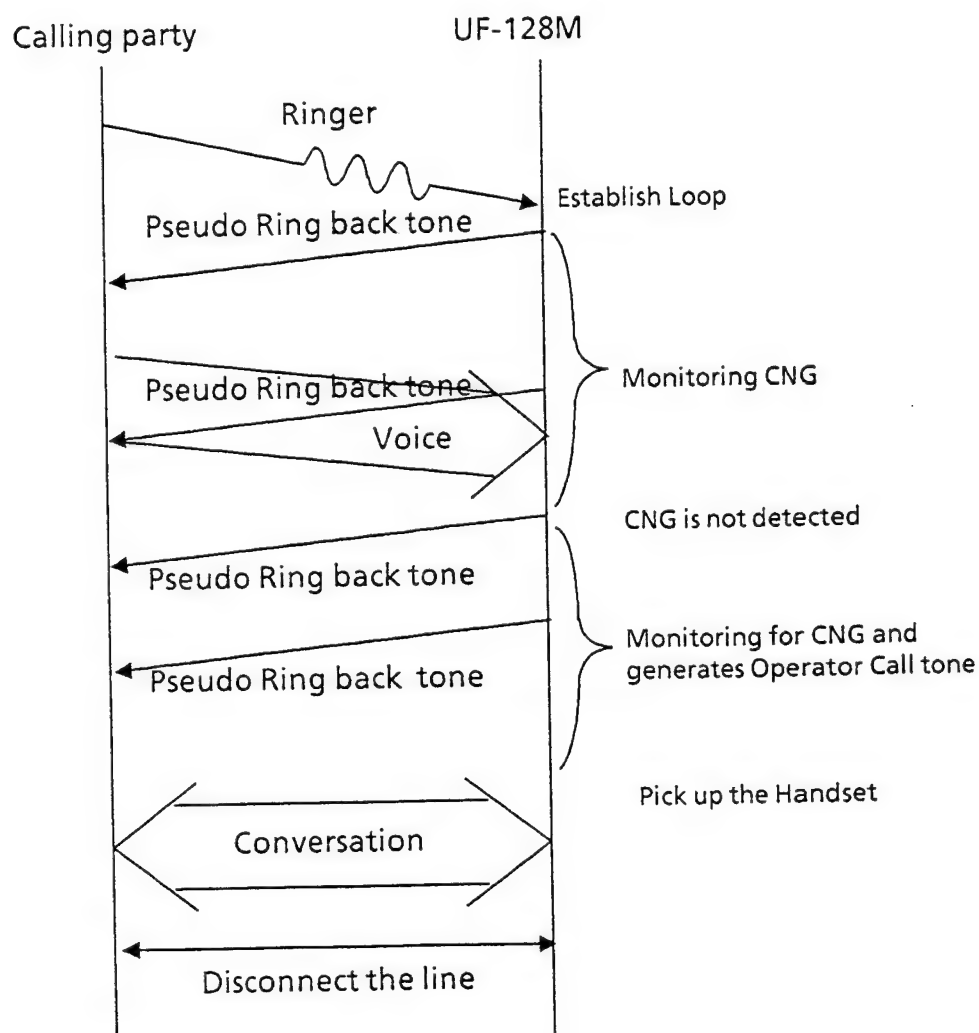


Fig. 6.9.7

Fig. 6.9.7 shows operational sequence if calling party is an operator.

The UF-128M sends a Pseudo Ring back tone to the calling party. If calling party is an operator, CNG is not detected. The UF-128M will generate an operator call tone through the built-in buzzer and continue to monitor for a CNG signal.

b) If calling party is a Fax machine

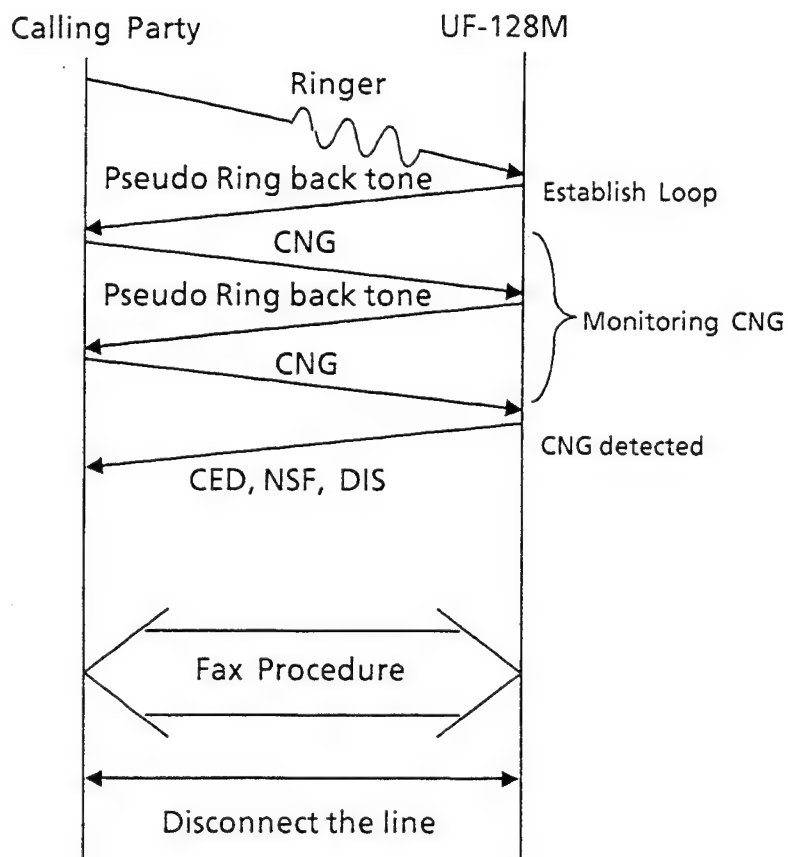


Fig. 6.9.8

Fig. 6.9.8 shows operational sequence if calling party is a Fax machine.

If CNG signal is detected, the UF-128M starts FAX communication procedure. If calling party is a Fax machine which does not send CNG signal, the UF-128M will start Fax procedure after Operator calling without CNG signal being detected.

c) In case operator at the UF-128M side does not pick-up the handset

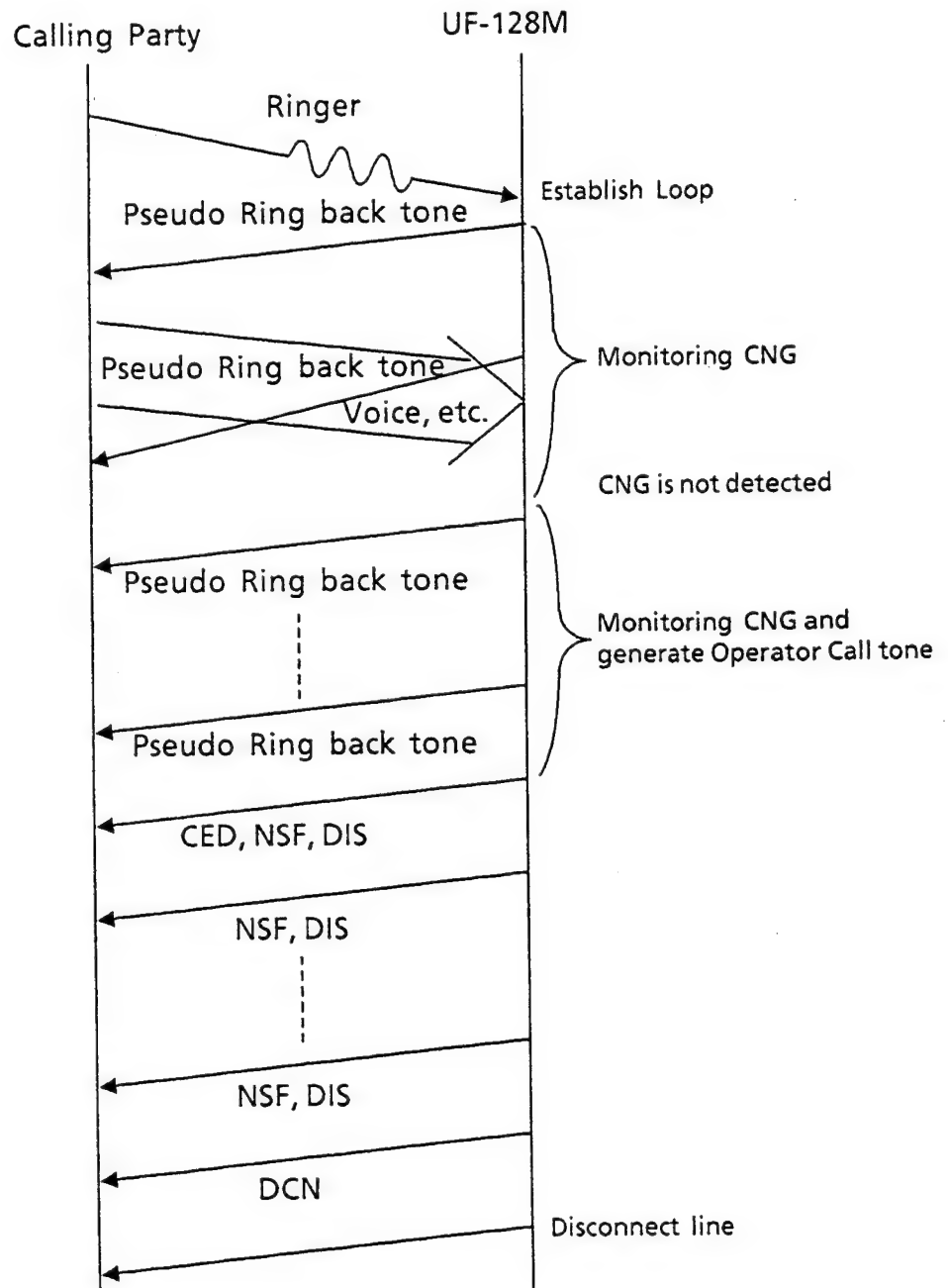


Fig. 6.9.9

Fig. 6.9.9 shows operational sequence if CNG is not detected and the operator of the UF-128M does not pick-up the handset. In this case, UF-128M will send Fax communication signals (CED, NSF, DIS) at the end of sequence even though the UF-128M did not detect the CNG signal.

6.9.2.3 Pseudo Ring Back Tone

The Pseudo Ring Back Tone generated is a frequency of 600Hz which is modulated by 25Hz with an interval of 1 sec. ON and 5 sec OFF. The frequency (600Hz), On-time and Off-time is changeable by RAM switch.

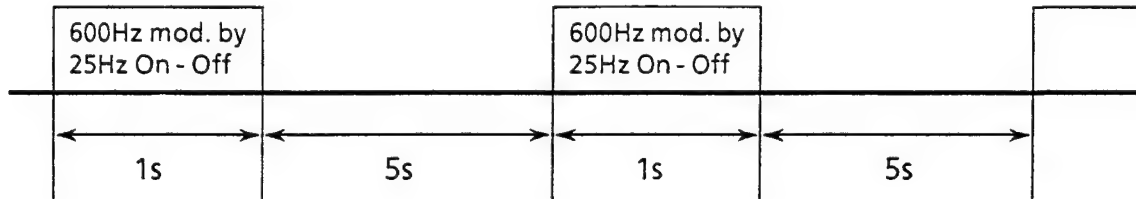


Fig. 6.9.10 Pattern of Pseudo Ring Back Tone

Off-time of pseudo ring back tone needs at least 4 sec. to detect CNG during this time.

6.9.2.4. CNG Detection

CNG signal of 1100Hz is evaluated, from On-edge to Off-edge as On-time and from Off-edge to On-edge as Off time. If the detection time of On and Off is within a certain value, then counter is incremented. When the counter reaches a certain value, the signal is recognized as a CNG signal. The CNG signal is checked when it starts from On-edge. In case that On-time and/or Off-time are not of a preset value, CNG detection will start from the beginning.

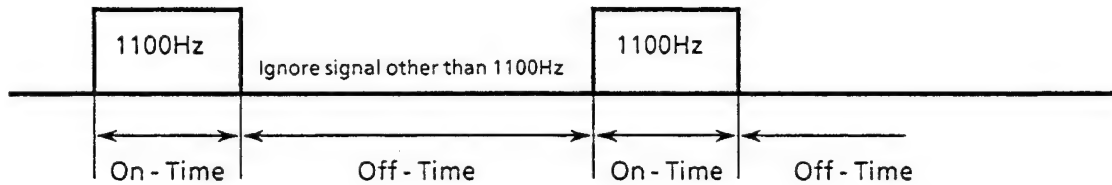


Fig. 6.9.11 CNG Detection

The detection of CNG signal pattern is as shown below :

- i) Evaluation by one CNG signal Judging time 0.5 ~ 3.5 sec

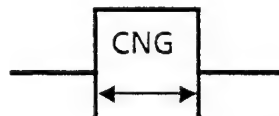


Fig. 6.9.12

- ii) Evaluation by two CNG signals Judging time 4.0 ~ 7.0 sec
(Factory default)

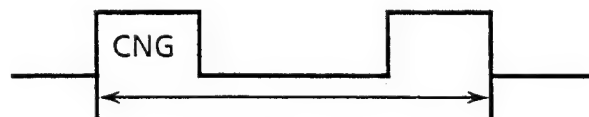


Fig. 6.9.13

6.9.2.5. "No Tone" Detection

As shown in Fig.6.9.14, once the "No Tone" detection has started, the timer is integrated. If the timer reaches setting time, then "No Tone" is detected. If any signal which is longer than the preset time detected, the integration value is cleared and integration starts once again.

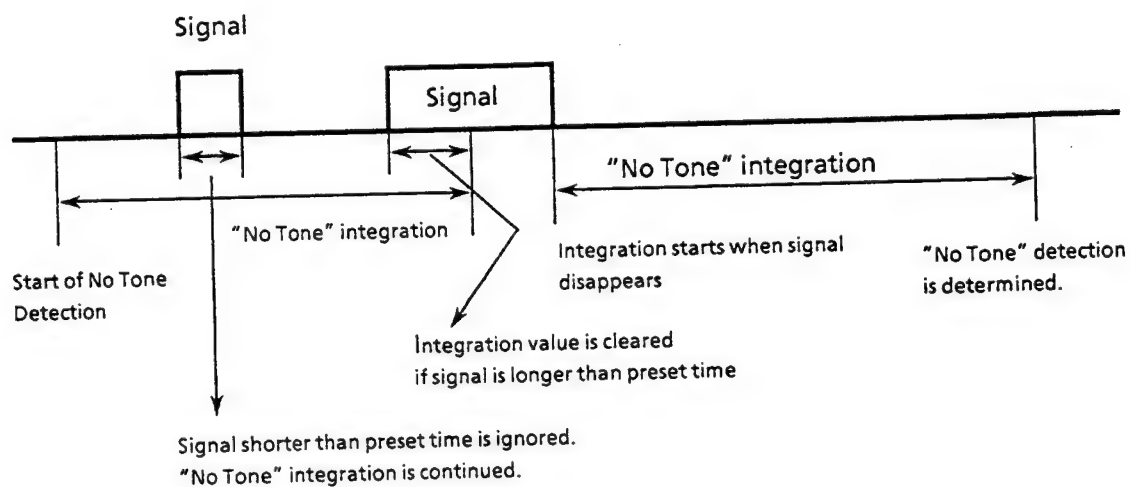


Fig. 6.9.14 "No Tone" Detection

6.9.3 Hardware

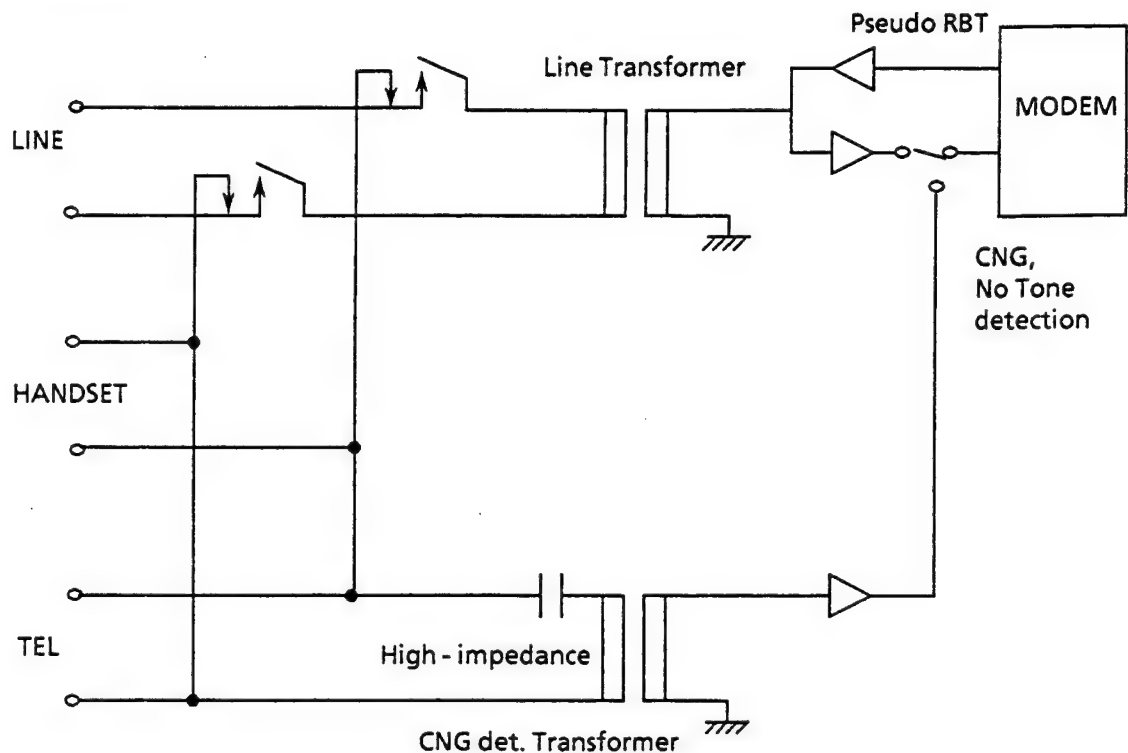


Fig. 6.9.15 CNG, "No Tone" Detection Circuit

Fig. 6.9.15 shows CNG, "No Tone" detection and Pseudo Ring Back Tone generating (Pseudo R.B.T) circuit. CNG and

"No Tone" are checked by the Modem. The Ring Back Tone is also generated by the Modem.

1. CNG and "No Tone" Detection Method of TAM Interface

UF-128M detects CNG and "No Tone" after the TAM seizes the telephone line. Therefore, CNG and "No Tone" can't be detected through the Line Transformer.

The Modem input is switched to the CNG detection transformer which has a high impedance.

2 CNG Detection Method of FAX / TELEPHONE Switching Mode

Under FAX / TELEPHONE Switching mode, UF-128M detects CNG signal after the fax machine (UF-128M) seizes the line. The Modem input is connected to the Line Transformer side, as with a normal fax communication.

Chapter 7

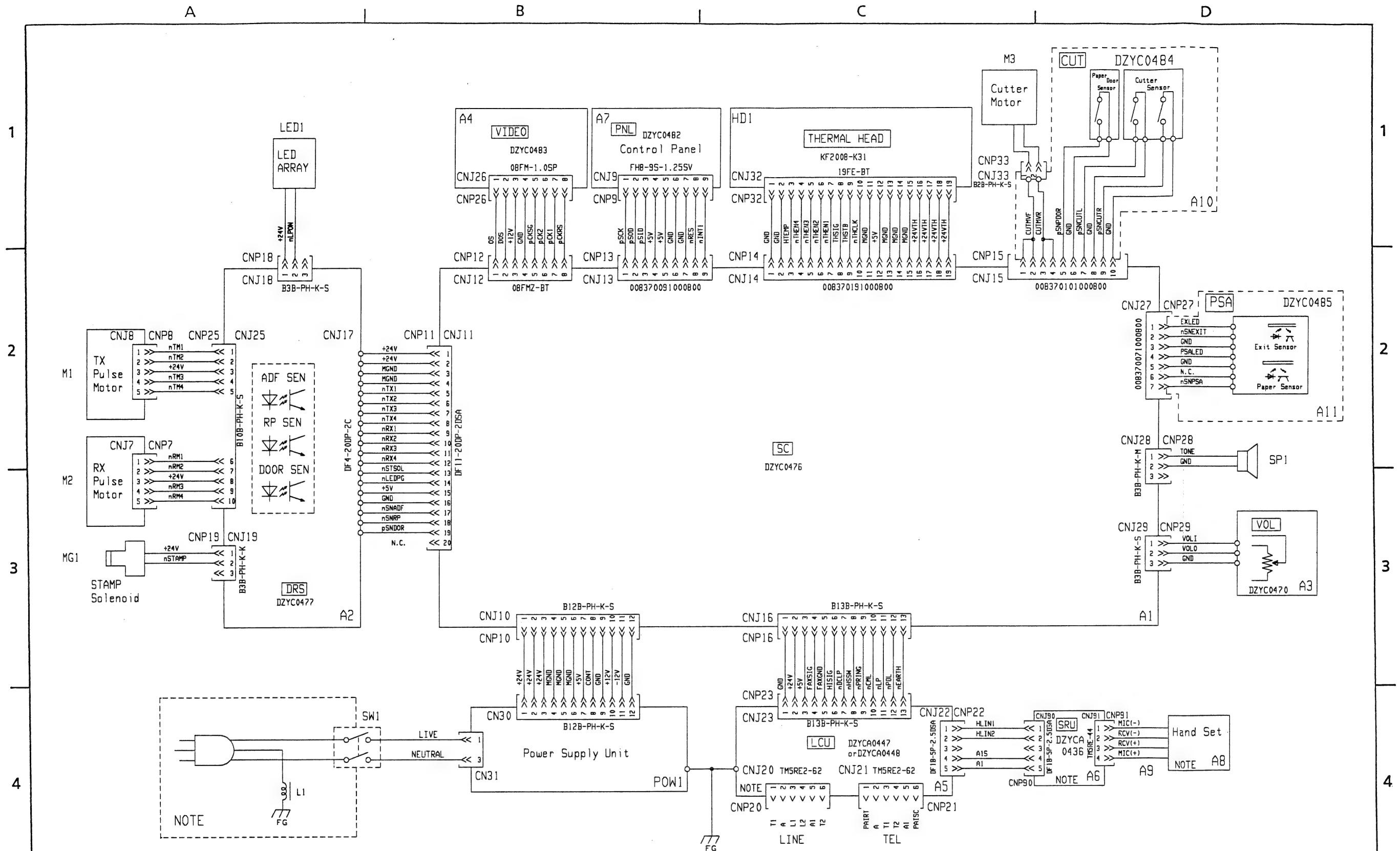
Schematic Diagrams & Parts List

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Ref.No.	Part No.	Part Name	Description

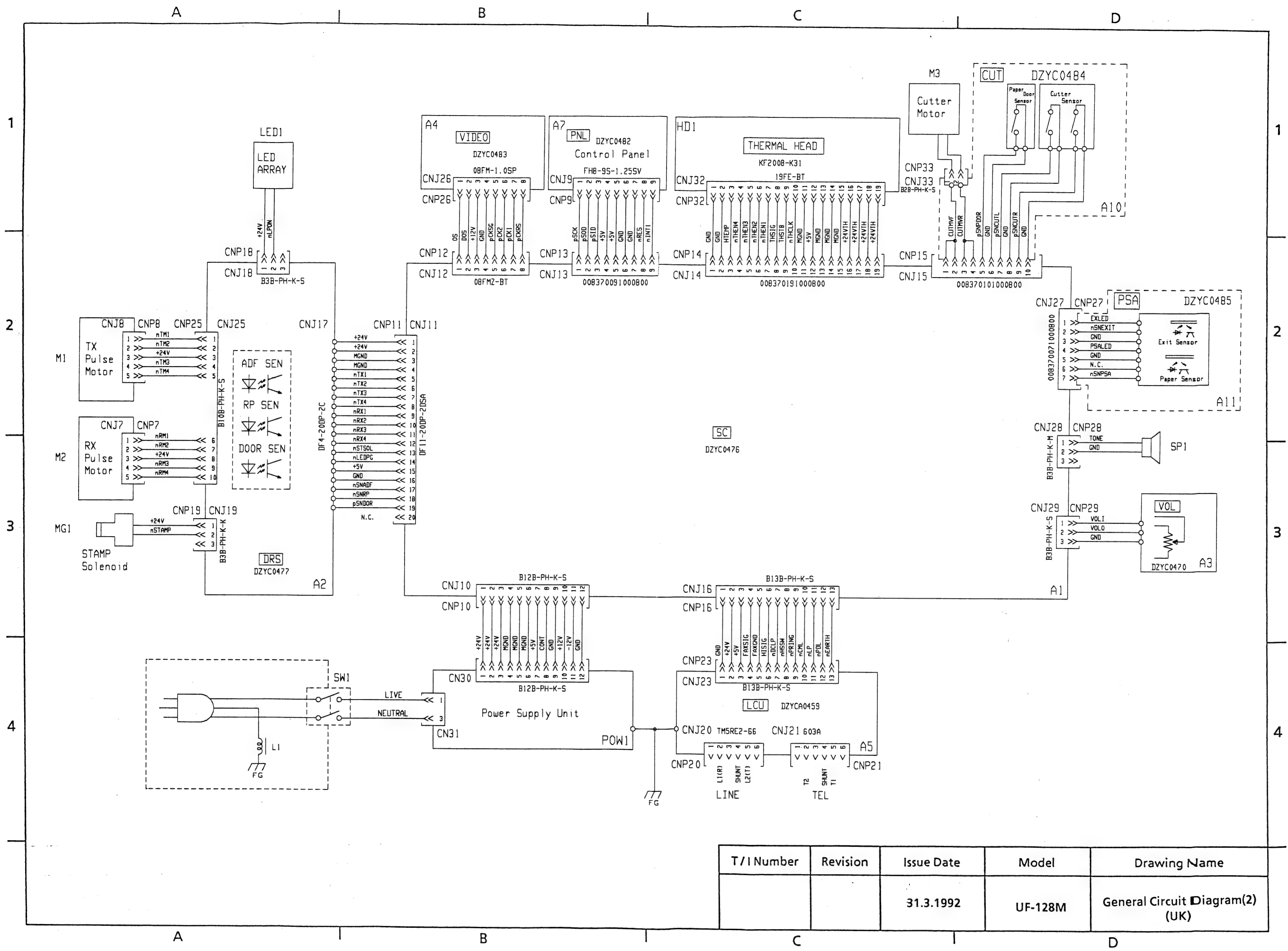


Cr	Chip Resistor
Cfr	Carbon Film Resistor
CEr	Ceramic Resistor
MFr	Metal Film Resistor
MOFr	Metal Oxide Film Resistor
Vr	Variable Resistor
Jr	Jumper Resistor
Cj	Chip Jumper
Cc	Ceramic Chip Capacitor
CTc	Ceramic Trimmer Chip Capacitor
PFc	Polyester Film Capacitor
Ec	Electrolytic Capacitor
TEc	Tantalum Electrolytic Capacitor



Note : This parts may vary depending on the country. (Refer to Parts List)

T / I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	General Circuit Diagram(1) (Standard)



T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	General Circuit Diagram(2) (UK)

A

B

C

D

1

1

2

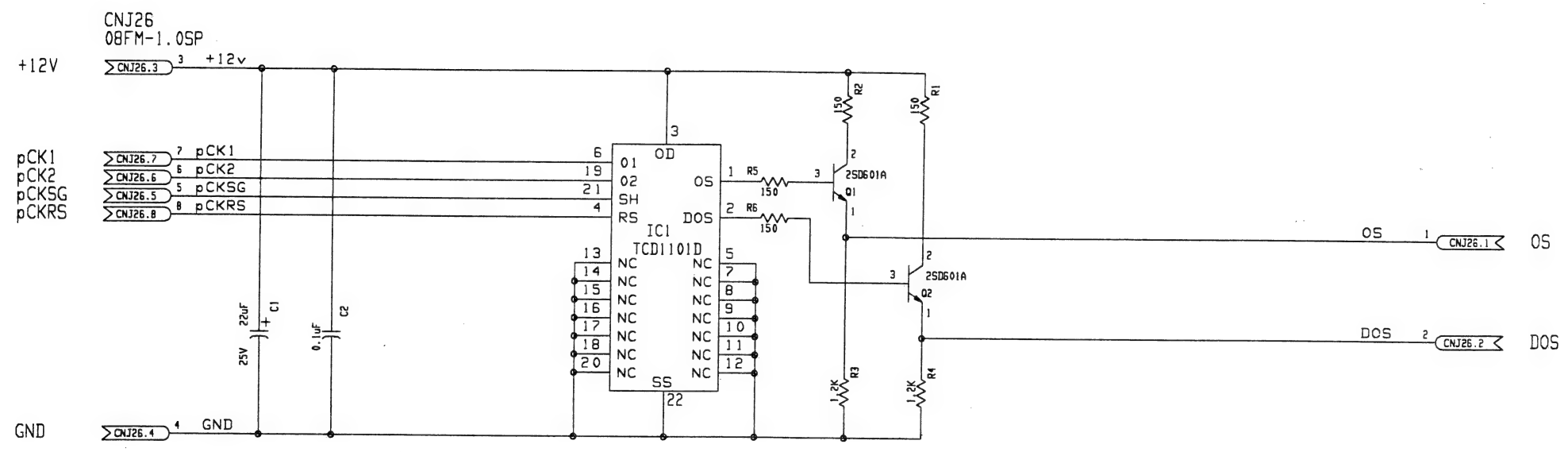
2

3

3

4

4



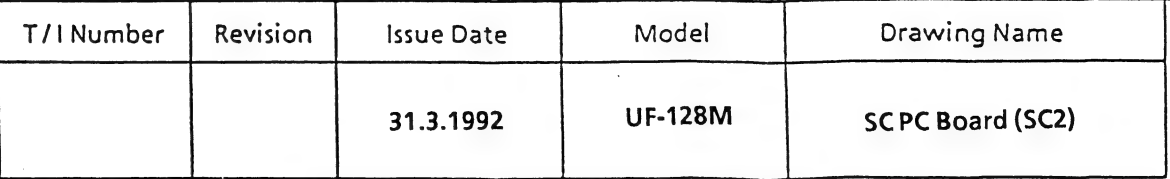
T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	VIDEO PC Board

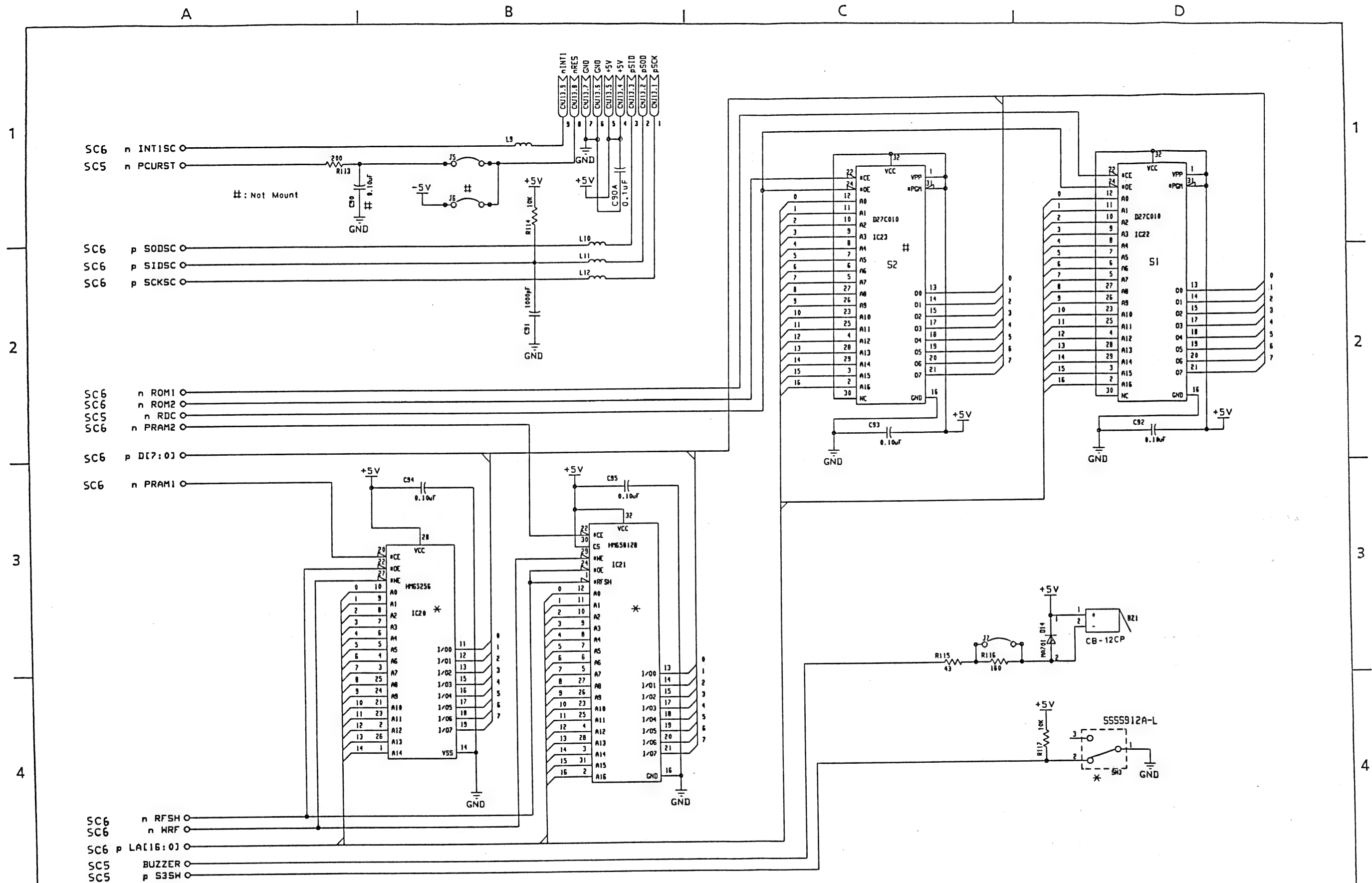
A

B

C

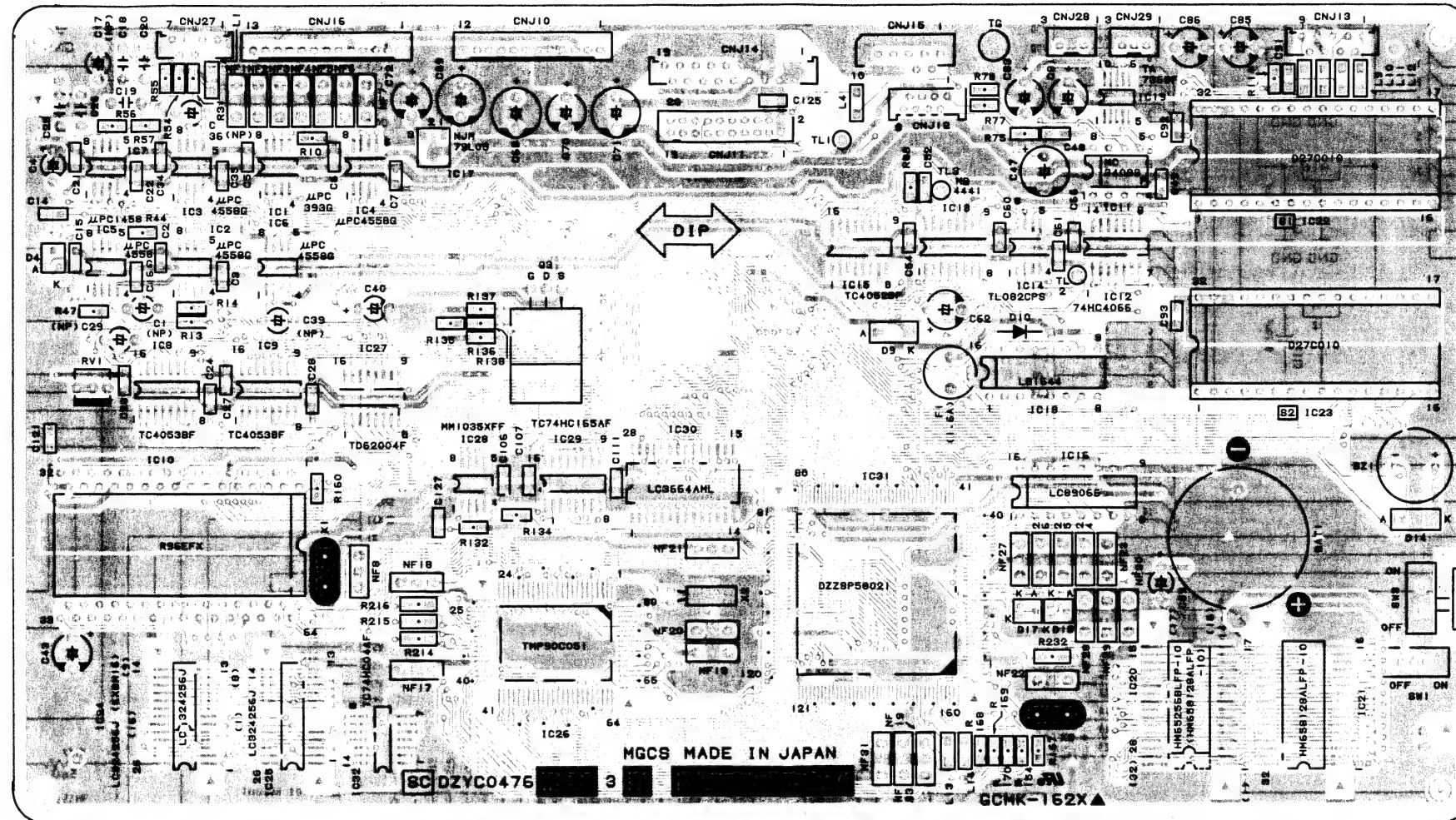
D





T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	SC PC Board (SC4)

Component Loaded Side



T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	Component Location Layout (SC7) (Component loaded side)

A

B

C

D

1

1

Soldering Side

2

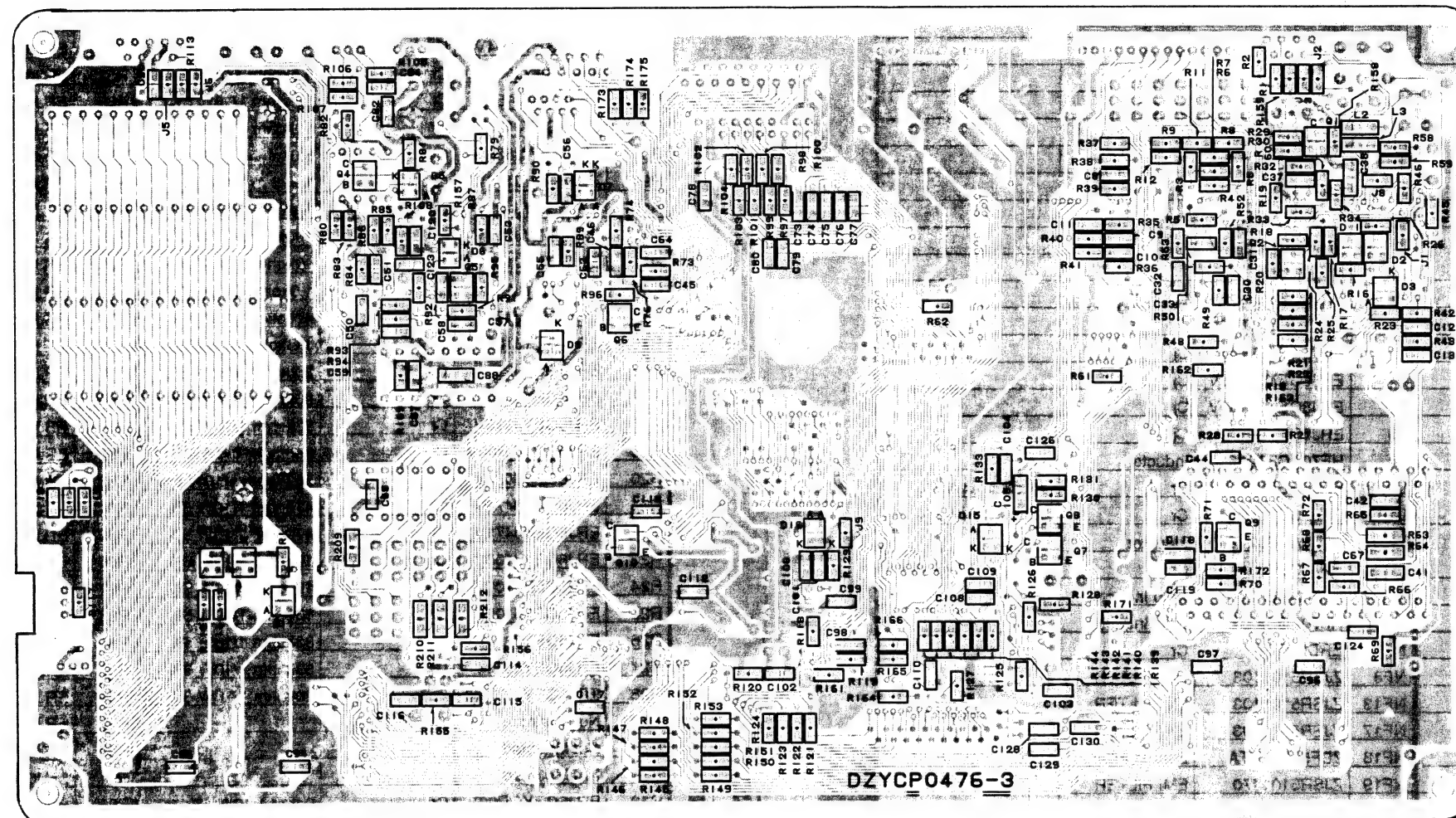
2

3

3

4

4



T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	Component Location Layout (SC8) (Soldering side)

A

B

C

D

7.3 SC PC Board (1/5) Common Parts

Ref. No.	Part No.	Part Name	Ref. No.	Part No.	Part Name	Description
IC1	uPC393G	IC,Comparator	D5	MA724	DIODE	
IC2	uPC4558G	IC,Op Amp	D6	MA159	DIODE	
	NJM4558M		D7	MA724	DIODE	
IC4	uPC4558G	IC,Op Amp	D8	MA721	DIODE	
	NJM4558M		D9	MA701	DIODE	
IC5	uPC4558G	IC,Op Amp	D10	V03C	DIODE	
	NJM4558M		D11	MA721	DIODE	
IC6	uPC4558G	IC,Op Amp	D12	MA721	DIODE	
	NJM4558M		D13	MA721	DIODE	
IC8	TC4053BF	IC,Analogue SW	D14	MA701	DIODE	
	BU4053BF		D15	MA704WA	DIODE	
IC9	TC4053BF	IC,Analogue SW	J1	ERJ6GEY0R00V	Cj	
	BU4053BF		J2	NOT MOUNTED		
IC10	R96EFX	IC,MODEM	J3	ERJ6GEY0R00V	Cj	
IC11	MC34083P	IC,AMP	J4	ERJ6GEY0R00V	Cj	
IC12	TC74HC4066AF	IC,Analogue SW	J5	ERJ6GEY0R00V	Cj	
	HD74HC4066FP		J6	NOT MOUNTED		
IC13	MB4441	IC,ABC	J7	ERJ6GEY0R00V	Cj	
IC14	TL082CPS	IC,Op Amp	J8	NOT MOUNTED		
IC15	TC4052BF	IC,Analogue SW	J9	ERJ6GEY0R00V	Cj	
IC16	LC89066	IC,ADC	L1	ERJ8GEY0R00V	Cj	
IC17	NJM79L05UA	IC,Voltage Regulator	L2	ERJ8GEY0R00V	Cj	
IC18	LB1644	IC,Motor Driver	L3	ERJ8GEY0R00V	Cj	
IC19	TA7368F	IC, AF AMP	L4	HF70ACB3216	Inductor	
IC20	HM658128ALF1	IC,PSRAM	L9	ERJ8GEYJ201	Cr	200ohm 1/4W 5%
	TC518128AFL1		L10	ERJ8GEYJ201	Cr	200ohm 1/4W 5%
IC21	HM658128ALF1	IC,PSRAM	L11	HF70ACB3216	Inductor	
	TC518128AFL1		L12	ERJ8GEYJ201	Cr	200ohm 1/4W 5%
IC22	D27C010150	IC,EPROM	L13	HF70ACB3216	Chip Inductor	
IC24	EXBM16P202J	IC,Network R	L14	HF70ACB3216	Chip Inductor	
IC26	TMP90C051F	IC,MPU	NF1	ERDS2T0T	Cr	
IC27	TD62004F	IC,Transistor Array	NF8	ZJSR5101103	EMI FILTER	
IC28	MM1035XFF	IC,Reset	NF13	ZJSR5101103	EMI FILTER	
IC29	TC74HC165AF	IC,Logic	NF17	ZJSR5101103	EMI FILTER	
	HD74HC165FP		NF18	ZBF503D00TA	Beards Filter	
IC30	LC3664AML-10	IC,SRAM	NF19	ZJSR5101470	EMI FILTER	
IC31	DZZSP58021	IC,FPU Gate Array	NF20	ZJSR5101223	EMI FILTER	
CNJ10	B12B-PH-K-S	Connector	NF21	ZJSR5101223	EMI FILTER	
CNJ11	DF112DDP2DSA	Connector	NF22	ZJSR5101223	EMI FILTER	
CNJ12	08FMZ-BT	Connector	NF23	ZJSR5101470	EMI FILTER	
CNJ13	No8370091000	Connector	NF24	ZJSR5101470	EMI FILTER	
CNJ14	19FE-BT	Connector	NF25	ZJSR5101470	EMI FILTER	
CNJ15	No520451010	Connector	NF26	ZJSR5101470	EMI FILTER	
CNJ16	B13B-PH-K-S	Connector	NF27	ZJSR5101470	EMI FILTER	
CNJ27	07FE-BT	Connector	NF28	ZJSR5101470	EMI FILTER	
CNJ28	B3B-PH-K-M	Connector	NF29	ZJSR5101470	EMI FILTER	
CNJ29	B3B-PH-K-S	Connector	NF30	ZJSR5101470	EMI FILTER	
D1	MA153	DIODE	NF31	ZJSR5101223	EMI FILTER	
	DAN217T146		NF33	ZJSR5101470	EMI FILTER	
D2	MA151WA	DIODE	Q1	NOT MOUNTED		
	DAP202KT146		Q2	2SK94	FET	
D3	RD20M	DIODE	Q3	2SJ172	FET	
D4	MA153	DIODE	Q4	2SD601A-R	Transistor	
	DAN217T146		Q5	2SD601A-R	Transistor	

SC PC Board (2/5) Common Parts

Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
Q6	UN221F	Transistor		R53	ERJ6GEYJ473V	Cr	47kohm 1/10W 5%
Q7	UN2216	Transistor		R60	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%
Q8	UN2216	Transistor		R62	ERJ6GEYJ103V	Cr	10kohm 1/01W 5%
Q9	UN221F	Transistor		R63	ERJ8GEYG363V	Cr	36kohm 1/10W 2%
R1	Not Mounted			R64	ERJ8GEYG103V	Cr	10kohm 1/10W 2%
R2	ERJ6GEYJ151V	Cr	150ohm 1/10W 5%	R65	ERJ6GEYOR00V	Cr	0ohm 1/10W 5%
R3	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R66	ERJ6GEYJ275V	Cr	2.7Mohm 1/10W 5%
R4	ERJ6GEYJ104V	Cr	100kohm 1/10W 5%	R67	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%
R5	ERJ6GEYJ562V	Cr	5.6kohm 1/10W 5%	R68	ERJ6GEYJ562V	Cr	5.6kohm 1/10W 5%
R6	ERJ6GEYJ153V	Cr	15kohm 1/10W 5%	R69	ERJ6GEYJ3R0V	Cr	3ohm 1/10W 5%
R7	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R70	ERJ6GEYJ562V	Cr	5.6kohm 1/10W 5%
R8	ERJ6GEYJ562V	Cr	5.6kohm 1/10W 5%	R71	ERJ6GEYJ471V	Cr	470ohm 1/10W 5%
R9	ERJ6GEYJ153V	Cr	15kohm 1/10W 5%	R72	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%
R10	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R73	ERJ6GEYJ333V	Cr	33kohm 1/10W 5%
R11	ERJ6GEYJ104V	Cr	100kohm 1/10W 5%	R74	ERJ6GEYJ513V	Cr	51kohm 1/10W 5%
R12	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R75	ERJ6GEYJ242V	Cr	2.4kohm 1/10W 5%
R13	ERJ6GEYJ102V	Cr	1.0kohm 1/10W 5%	R76	ERJ6GEYJ102V	Cr	1.0kohm 1/01W 5%
R14	ERJ6GEYJ473V	Cr	47kohm 1/10W 5%	R77	ERJ6GEYJ102V	Cr	1.0kohm 1/10W 5%
R15	ERJ6GEYJ102V	Cr	1.0kohm 1/10W 5%	R78	ERJ6GEYJ102V	Cr	1.0kohm 1/10W 5%
R16	ERJ6GEYJ222V	Cr	2.2kohm 1/10W 5%	R79	ERJ6GEYJ332V	Cr	3.3kohm 1/10W 5%
R17	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%	R80	ERJ6GEYJ332V	Cr	3.3kohm 1/10W 5%
R18	ERJ6GEYJ333V	Cr	33kohm 1/10W 5%	R81	ERJ6GEYJ101V	Cr	100ohm 1/10W 5%
R19	ERJ6GEYOR00V	Cr	0ohm 1/10W 5%	R82	ERJ6GEYJ151V	Cr	150ohm 1/10W 5%
R20	ERJ6GEYJ564V	Cr	560kohm 1/10W 5%	R83	ERJ6GEYJ222V	Cr	2.2kohm 1/10W 5%
R21	ERJ6GEYJ471V	Cr	470ohm 1/10W 5%	R84	ERJ6GEYJ562V	Cr	5.6kohm 1/10W 5%
R22	ERJ6GEYJ471V	Cr	470ohm 1/10W 5%	R85	ERJ6GEYJ223V	Cr	22kohm 1/10W 5%
R23	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R86	ERJ6GEYJ153V	Cr	15kohm 1/10W 5%
R24	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R87	ERJ6GEYJ473V	Cr	47kohm 1/10W 5%
R25	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R88	ERJ6GEYJ333V	Cr	33kohm 1/10W 5%
R26	ERJ6GEYJ333V	Cr	33kohm 1/10W 5%	R89	ERJ6GEYJ102V	Cr	1.0kohm 1/10W 5%
R27	ERJ6GEYJ333V	Cr	33kohm 1/10W 5%	R90	ERJ6GEYJ332V	Cr	3.3kohm 1/10W 5%
R28	ERJ6GEYJ203V	Cr	20kohm 1/10W 5%	R91	ERJ6GEYJ332V	Cr	3.3kohm 1/10W 5%
R29	Not Mounted			R92	ERJ6GEYJ471V	Cr	470ohm 1/10W 5%
R30	Not Mounted			R93	ERJ6GEYJ332V	Cr	3.3kohm 1/10W 5%
R31	Not Mounted			R94	ERJ6GEYJ622V	Cr	6.2kohm 1/10W 5%
R32	ERJ6GEYOR00V	Cr	0ohm 1/10W 5%	R95	ERJ6GEYJ472V	Cr	4.7kohm 1/10W 5%
R33	Not Mounted			R96	ERJ6GEYJ241V	Cr	240ohm 1/10W 5%
R34	ERJ6GEYJ222V	Cr	2.2kohm 1/10W 5%	R97	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%
R36	ERJ6GEYJ753V	Cr	75kohm 1/10W 5%	R98	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%
R37	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R99	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%
R38	ERJ6GEYJ472V	Cr	4.7kohm 1/10W 5%	R100	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%
R39	ERJ6GEYJ224V	Cr	220kohm 1/10W 5%	R101	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%
R40	ERJ6GEYJ334V	Cr	330 kohm 1/10W 5%	R102	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%
R41	ERJ6GEYJ304V	Cr	300 kohm 1/10W 5%	R103	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%
R42	ERJ6GEYJ114V	Cr	110kohm 1/10W 5%	R104	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%
R43	ERJ6GEYJ363V	Cr	36kohm 1/10W 5%	R105	ERJ6GEYOR00V	Cr	0ohm 1/10W 5%
R44	ERJ6GEYJ683V	Cr	68kohm 1/10W 5%	R106	ERJ6GEYJ271V	Cr	270ohm 1/10W 5%
R46	ERJ6GEYJ561V	Cr	560ohm 1/10W 5%	R107	ERJ6GEYOR00V	Cr	0ohm 1/10W 5%
R47	ERJ6GEYJ682V	Cr	6.8kohm 1/10W 5%	R108	ERJ6GEYJ102V	Cr	1.0kohm 1/10W 5%
R48	ERJ6GEYJ823V	Cr	82kohm 1/10W 5%	R109	ERJ6GEYJ473V	Cr	47kohm 1/10W 5%
R49	ERJ6GEYJ393V	Cr	39kohm 1/10W 5%	R110	ERJ6GEYJ271V	Cr	270ohm 1/10W 5%
R50	ERJ6GEYJ303V	Cr	30kohm 1/10W 5%	R111	ERJ6GEYJ111V	Cr	110ohm 1/10W 5%
R51	ERJ6GEYJ913V	Cr	91kohm 1/10W 5%	R112	ERJ6GEYJ471V	Cr	470ohm 1/10W 5%
R52	ERJ6GEYJ302V	Cr	3.0kohm 1/10W 5%	R113	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%

SC PC Board (3/5) Commom Parts

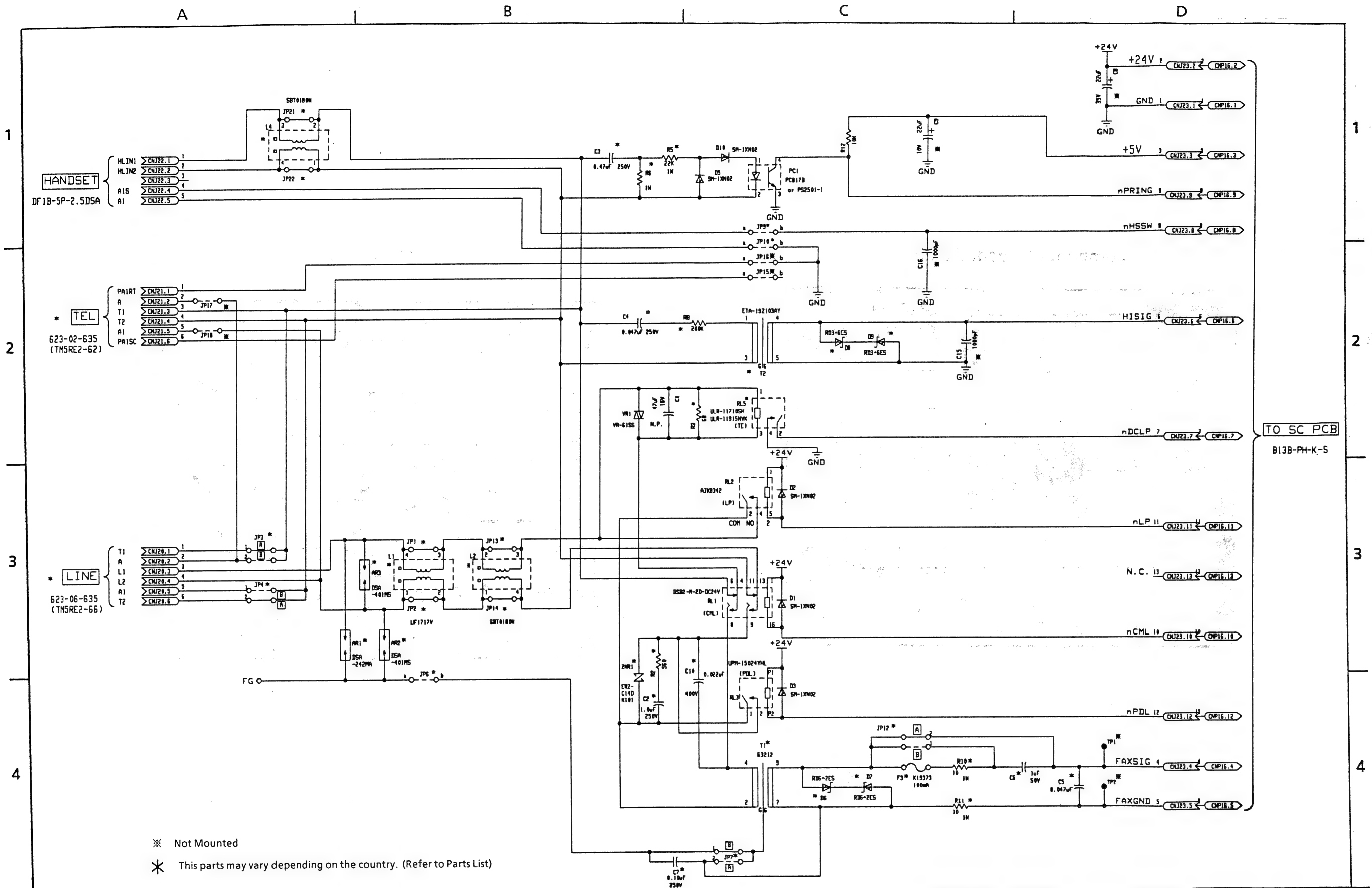
Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
R114	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R171	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%
R115	ERJ6GEYJ430V	Cr	43ohm 1/10W 5%	R172	ERJ6GEYJ562V	Cr	5.6kohm 1/10W 5%
R116	ERJ6GEYJ161V	Cr	160ohm 1/10W 5%	R173	ERJ6GEYJ102V	Cr	1.0kohm 1/10W 5%
R117	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R174	ERJ6GEYJ102V	Cr	1.0kohm 1/10W 5%
R118	ERJ6GERJ333V	Cr	33kohm 1/10W 5%	R175	ERJ6GEYJ102V	Cr	1.0kohm 1/10W 5%
R119	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R209	ERJ8GEYJ201V	Cr	200ohm 1/8W 5%
R120	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R210	ERJ8GEYJ201V	Cr	200ohm 1/8W 5%
R121	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%	R211	ERJ8GEYJ201V	Cr	200ohm 1/8W 5%
R122	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%	R212	ERJ8GEYJ201V	Cr	200ohm 1/8W 5%
R123	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%	R214	ERJ8GEYJ201V	Cr	200ohm 1/8W 5%
R124	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%	R215	ERJ8GEYJ101V	Cr	100ohm 1/8W 5%
R125	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%	R216	ERJ8GEYJ201V	Cr	200ohm 1/8W 5%
R126	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	R232	ERJ8GEYJ201V	Cr	200ohm 1/8W 5%
R127	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C1	ECEA1HSN010B	Ec	1uF 50V 20%
R128	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C2	ECUV1H104ZFX	Cc	0.1uF 50V
R129	ERJ6GEYJ104V	Cr	100kohm 1/10W 5%	C3	ECUV1H104ZFX	Cc	0.1uF 50V
R130	ERJ6GEYJ562V	Cr	5.6kohm 1/10W 5%	C4	ECEA1HKS010B	Ec	1uF 50V 20%
R131	ERJ6GEYJ331V	Cr	330ohm 1/10W 5%	C5	ECUV1H104ZFX	Cc	0.1uF 50V
R132	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C6	ECUV1H104ZFX	Cc	0.1uF 50V
R133	ERJ6GEYOR00V	Cr	0ohm 1/10W 5%	C7	ECUV1H104ZFX	Cc	0.1uF 50V
R134	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C8	ECUV1H271KBN	Cc	270pF 50V 10%
R136	ERJ6GEYJ471V	Cr	470ohm 1/10W 5%	C9	ECUV1H271KBN	Cc	270pF 50V 10%
R137	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C10	ECUV1H271KBN	Cc	270pF 50V 10%
R138	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C11	ECUV1H331KBN	Cc	330pF 50V 10%
R139	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C12	ECUV1H331KBN	Cc	330pF 50V 10%
R140	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C13	ECUV1H102KBN	Cc	1000pF 50V 10%
R141	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C14	ECUV1H561KBN	Cc	560pF 50V 10%
R142	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C15	ECUV1H104ZFX	Cc	0.1uF 50V
R143	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C16	ECUV1H104ZFX	Cc	0.1uF 50V
R144	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C23	ECUV1H104ZFX	Cc	0.1uF 50V
R145	ERJ6GEYOR00V	Cr	0ohm	C24	ECUV1H104ZFX	Cc	0.1uF 50V
R146	ERJ6GEYOR00V	Cr	0ohm	C27	ECUV1H104ZFX	Cc	0.1uF 50V
R147	ERJ6GEYOR00V	Cr	0ohm	C28	ECUV1H104ZFX	Cc	0.1uF 50V
R148	ERJ6GEYOR00V	Cr	0ohm	C29	ECEA1HSNR47B	Ec	0.47uF 50V 20%
R149	ERJ6GEYOR00V	Cr	0ohm	C30	ECUV1H222KBN	Cc	2200pF 50V 10%
R150	ERJ6GEYOR00V	Cr	0ohm	C31	ECUV1H104ZFX	Cc	0.1uF 50V
R151	ERJ6GEYOR00V	Cr	0ohm	C32	ECUV1H104ZFX	Cc	0.1uF 50V
R152	ERJ6GEYOR00V	Cr	0ohm	C33	ECUV1H102KBN	Cc	1000pF 50V 10%
R153	ERJ6GEYOR00V	Cr	0ohm	C34	NOT MOUNTED		
R154	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%	C35	NOT MOUNTED		
R155	ERJ6GEYJ105V	Cr	1Mohm 1/10W 5%	C36	NOT MOUNTED		
R156	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%	C37	NOT MOUNTED		
R157	ERJ6GEYJ330V	Cr	33ohm 1/10W 5%	C38	NOT MOUNTED		
R158	ERJ6GEYJ472V	Cr	4.7kohm 1/10W 5%	C39	ECEA1HSN010B	Ec	1uF 50V 20%
R159	ERJ6GEYJ201V	Cr	200ohm 1/10W 5%	C40	ECEA1HKS010B	Ec	1uF 50V 20%
R160	ERJ6GEY561V	Cr	560ohm 1/10W 5%	C41	ECUV1H104KBW	Cc	0.1uF 50V 10%
R161	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C42	ECUV1H104ZFX	Cc	0.1uF 50V
R162	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C43	ECEA1CKS330B	Ec	33uF 16V 20%
R163	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C44	ECUV1H104ZFX	Cc	0.1uF 50V
R164	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C45	ECUV1H102KBN	Cc	1000pF 50V 10%
R165	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C46	ECUV1H102KBN	Cc	1000pF 50V 10%
R166	ERJ6GEYJ103V	Cr	10kohm 1/10W 5%	C47	ECEA1ESS101	Ec	100uF 25V
R167	ERJ6GEY516V	Cr	560ohm 1/10W 5%	C48	ECUV1H104ZFX	Cc	0.1uF 50V
R168	ERJ6GEYJ102V	Cr	1.0 kohm 1/10W 5%	C49	ECUV1H104ZFX	Cc	0.1uF 50V

SC PC Board (4/5) Common Parts

Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
C50	ECUV1H101KBN	Cc	100pF 50V	C104	ECUV1H104ZFX	Cc	0.1uF 50V
C51	ECUV1H050DCN	Cc	5pF 50V	C105	ECST1EY474R	TANTALUM Ec	0.47uF 25V
C52	ECUV1H102KBN	Cc	1000pF 50V 10%	C106	ECUV1H104ZFX	Cc	0.1uF 50V
C53	ECUV1H104ZFX	Cc	0.1uF 50V	C107	ECUV1H104ZFX	Cc	0.1uF 50V
C54	ECUV1H104ZFX	Cc	0.1uF 50V	C108	ECUV1H102KBN	Cc	1000pF 50V
C55	ECUV1H104ZFX	Cc	0.1uF 50V	C109	ECUV1H102KBN	Cc	1000pF 50V
C56	ECUV1H100FCN	Cc	10pF 50V	C110	ECUV1H102KBN	Cc	1000pF 50V 10%
C57	ECUV1H680JCG	Cc	68pF 5% 50V	C111	ECUV1H104ZFX	Cc	0.1uF 50V
C58	ECUV1H220JCG	Cc	22pF 5% 50V	C112	ECUV1H104ZFX	Cc	0.1uF 50V
C59	ECUV1H221KBN	Cc	220pF 50V	C113	ECUV1H104ZFX	Cc	0.1uF 50V
C60	ECUV1H104ZFX	Cc	0.1uF 50V	C114	ECUV1H104ZFX	Cc	0.1uF 50V
C61	ECUV1H104ZFX	Cc	0.1uF 50V	C115	ECUV1H120JCG	Cc	12pF 50V 5%
C62	ECEA1EKK3R3B	Ec	33uF 16V 20%	C116	ECUV1H120JCG	Cc	12pF 50V 5%
C63	ECUV1H104ZFX	Cc	0.1uF 50V	C117	ECUV1H104ZFX	Cc	0.1uF 50V
C64	ECUV1H104ZFX	Cc	0.1uF 50V	C118	ECUV1H180JCG	Cc	18pF 50V 5%
C65	ECUV1H104ZFX	Cc	0.1uF 50V	C119	ECUV1H390JCG	Cc	39pF 50V 5%
C66	ECUV1H104ZFX	Cc	0.1uF 50V	C120	ECUV1H102KBN	Cc	1000pF 50V 10%
C67	ECUV1H104ZFX	Cc	0.1uF 50V	C121	ECUV1H104ZFX	Cc	0.1uF 50V
C68	ECEA1VFS470B	Ec	47uF 35V	C122	NOT MOUNTED		
C69	ECEA1VFS470B	Ec	47uF 35V	C124	ECUV1H102KBN	Cc	1000pF 50V
C70	ECEA1CFS470B	Ec	47uF 16V	C125	ECUV1H104ZFX	Cc	0.1uF 50V
C71	ECEA1HFS470B	Ec	47uF 50V	C126	ECUV1H103KBG	Cc	0.01uF 50V
C72	ECEA1EFS330B	Ec	33uF 25V	C127	ECUV1H104ZFX	Cc	0.1uF 50V
C73	NOT MOUNTED			C130	ECUV1H104ZFX	Cc	0.1uF 50V
C74	NOT MOUNTED			X1	AT5124000MHZ	X'tal	
C75	NOT MOUNTED			X2	KF38G	X'tal	32.768KHz
C76	NOT MOUNTED			X3	AT5124000MHZ	X'tal	
C77	NOT MOUNTED			SW1	SSSS912A-S	Slide Switch	
C78	NOT MOUNTED			BAT1	VL2320-1HF	Battery	
C79	NOT MOUNTED			F1	TR-5(K19370)	Fuse	
C80	NOT MOUNTED			BZ1	QMX-05 CB-12CP	Buzzer	
C81	ECEA1CKS470B	Ec	47uF 16V 20%	RV1	EVMMSA01B24	VR	20Kohm
C82	ECUV1H104ZFX	Cc	0.1uF 50V	RV1	PK502H203H1 TT	VR	20Kohm
C83	ECEA1CKS330B	Ec	33uF 10V 20%	TG	YUL437TM027	Check Pin	
C84	ECUV1H472KBG	Cc	470uF 50V 10%		DICF-32CS-E	IC,Socket	
C85	ECEA1CKS470B	Ec	47uF 16V 20%				
C86	ECEA1CKS470B	Ec	47uF 16V 20%				
C87	ECUV1H104ZFX	Cc	0.1uF 50V				
C88	ECUV1H104KBW	Cc	0.1uF 25V 10%				
C89	ECEA1CKS100B	Ec	10uF 16V 20%				
C90	ECUV1H104ZFX	Cc	0.1uF 50V				
C91	ECUV1H102KBN	Cc	1000pF 50V 10%				
C92	ECUV1H104ZFX	Cc	0.1uF 50V				
C93	ECUV1H104ZFX	Cc	0.1uF 50V				
C94	ECUV1H104ZFX	Cc	0.1uF 50V				
C95	ECUV1H104ZFX	Cc	0.1uF 50V				
C96	ECUV1H104ZFX	Cc	0.1uF 50V				
C97	ECUV1H104ZFX	Cc	0.1uF 50V				
C98	ECUV1H102KBN	Cc	1000pF 50V 10%				
C99	ECUV1H104ZFX	Cc	0.1uF 50V				
C100	ECUV1H270JCG	Cc	27pF 50V 5%				
C101	ECUV1H220JCG	Cc	22pF 50V 5%				
C102	ECUV1H104ZFX	Cc	0.1uF 50V				
C103	ECUV1H014ZFX	Cc	0.1uF 50V				

SC PC Board (5/5) Individual Parts

Country Code		BH	The Netherlands		Country Code		BT	Turkey
		BJ	Spain				BY	Other Countries
Ref.No.	Part No.		Part Name	Description	DZYC0467**			
					BH	BJ	BT	BY
IC3	UPC4558G		IC,Op AMP		1	1		
	NJM4558M							
Q1	UN221F		TRANSISTOR		1	1		
SW3	SSSS912AL		SLIDE SWITCH				1	
R29	ERJ6GEYJ104V	Cr		100kohm 1/10W 5%	1	1		
R30	ERJ6GEYJ682V	Cr		6.8kohm 1/10W 5%	1	1		
R31	ERJ6GEYJ113V	Cr		11kohm 1/10W 5%	1	1		
R32	ERJ6GEYOR00V	Cj		0ohm	1	1		
R33	ERJ6GEYJ182V	Cr		1.8kohm 1/10W 5%	1	1		
R34	ERJ6GEYJ222V	Cr		2.2kohm 1/10W 5%	1			
R34	ERJ6GEYJ202V	Cr		2.0kohm 1/10W 5%		1		
R60	ERJ6GEYJ103V	Cr		10kohm 1/10W 5%	1			
R60	ERJ6GEYJ273V	Cr		27kohm 1/10W 5%		1		
C29	ECEA1HSNR47B	Ec		0.47uF 50V			1	1
C29	ECEA1HSN2R2B	Ec		2.2uF 50V	1	1		
C34	ECUV1H104ZFX	Cc		0.1uF 50V	1	1		
C35	ECUV1H104ZFX	Cc		0.1uF 50V	1	1		
C36	ECEA1HSNR47B	Ec		0.47uF 50V	1	1		
C37	ECUV1H472KBG	Cc		4700pH 50V	1			
C37	ECUV1H182KBG	Cc		1800pH 50V		1		
C38	ECUV1H104KBW	Cc		0.1uF 50V 10%	1	1		



T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	LCU PC Board DZYCA0447(1/2)

A

B

C

D

1

1

2

2

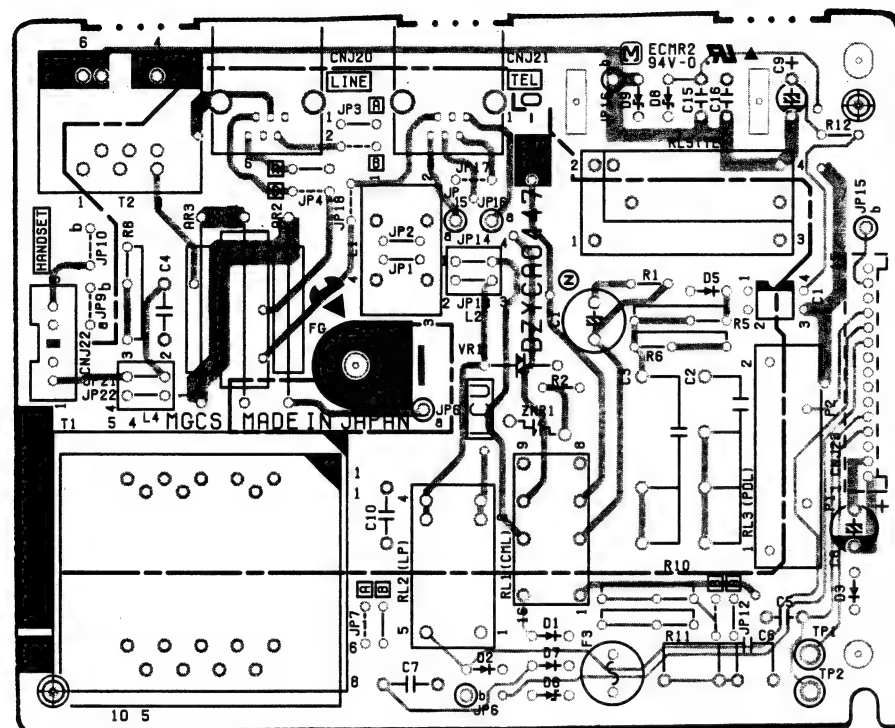
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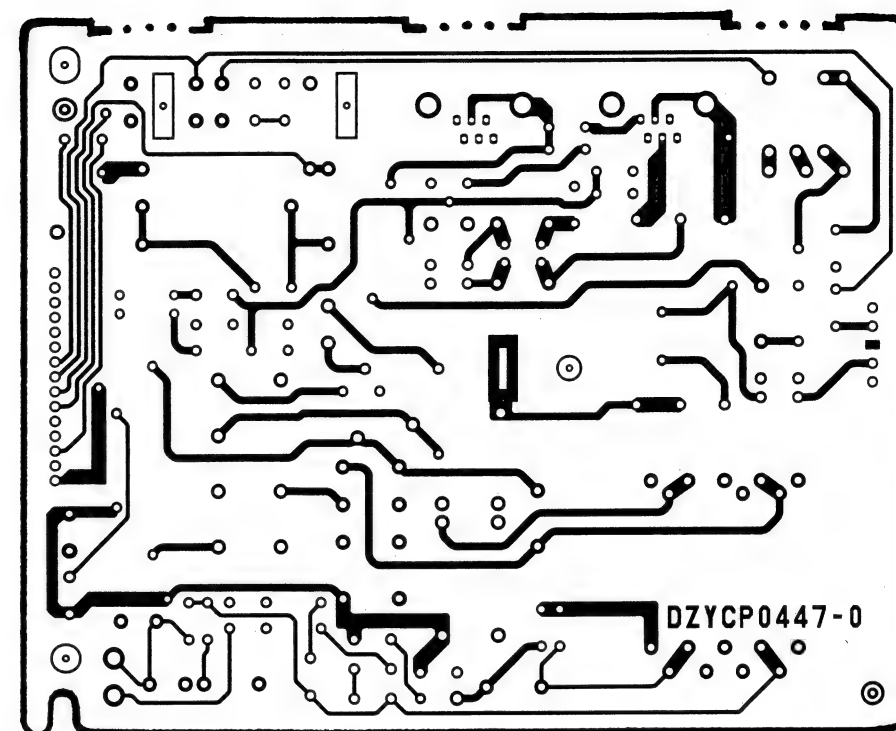
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4

Component Loaded Side



Soldering Side



T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	LCU PC Board DZYCA0447(2/2)

A

B

C

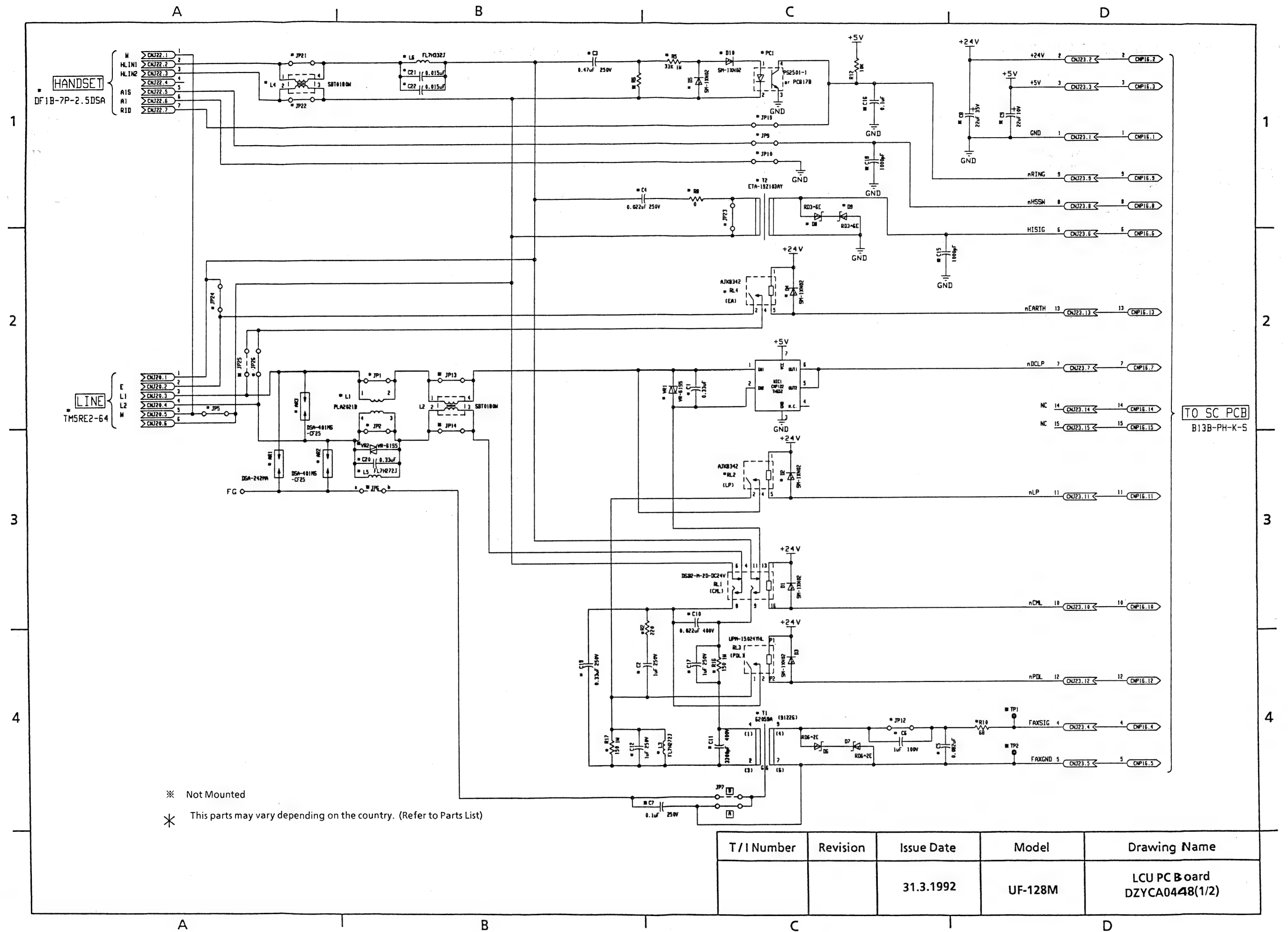
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7.4.1 LCU PC Board (DZYCA0447)(1/2)

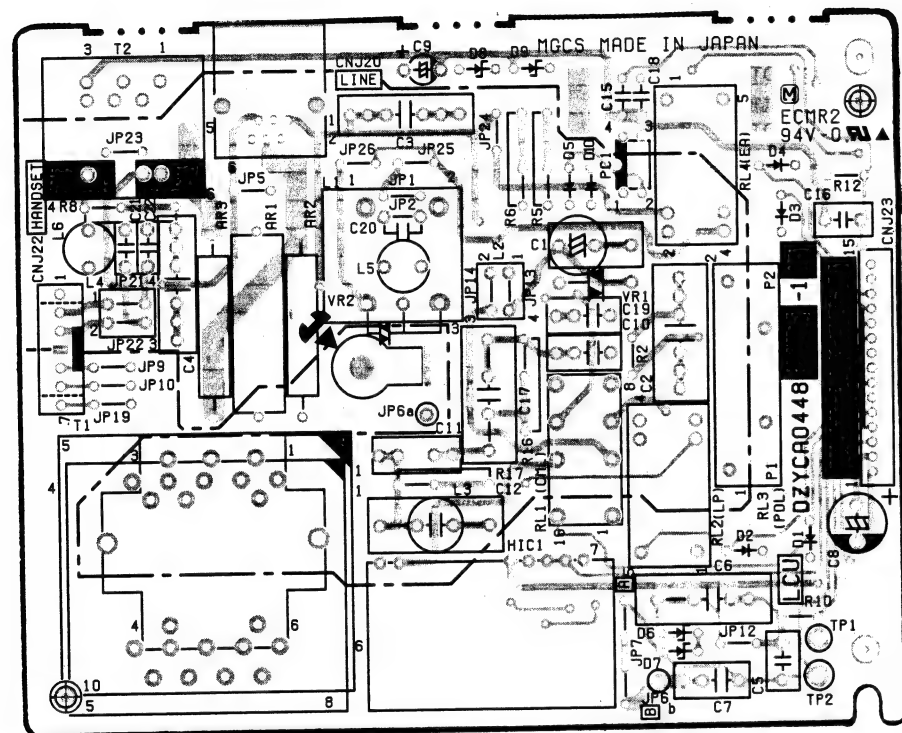
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		L	Australia		YX	Singapore Indonesia												
		P	Portugal															
		Q	Ireland															
Ref No	Part No.	Part Name	Description	DZYCA0447**														
				D	E	F	H	J	L	P	Q	R	T	YB	YV	YW	YX	
AR1	DSA242MA	Sarge Absorber		1				1			1	1						
AR1	DSA401MSCF25	Sarge Absorber			1					1			1	1	1	1		
AR1	DSA701MA	Sarge Absorber							1									
AR2	DSA401MSCF25	Sarge Absorber			1					1			1	1	1	1	1	
AR2	DSA701MA	Sarge Absorber							1									
AR3	DSA401MSCF25	Sarge Absorber		1		1	1	1			1	1						
C1	ECEA1CN470S	Ec	47uF,16V,N.P.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C2	ECQE2105KF	PFc	1uF,250V		1	1		1		1	1	1	1	1	1	1	1	1
C2	ECQE2474KF	PFc	0.47uF,250V	1														
C2	ECQE2684KF	PFc	0.68uF,250V						1									
C3	ECQE2474KF	PFc	0.47uF,250V	1	1	1	1	1	1	1		1	1	1	1			1
C3	ECQE2155KF	PFc	1.5uF,250V								1							
C3	ECQE2185KF	PFc	1.8uF,250V														1	
C4	ECQE2473KF	PFc	0.047uF,250V				1				1							
C4	ECQE2223KF	PFc	0.022uF,250V	1	1	1		1	1	1		1	1	1	1	1	1	1
C5	ECQB1H473JF	PFc	0.047uF,50V	1	1	1	1	1	1	1	1	1	1	1	1			1
C5	ECQB1H104JF	PFc	0.1uF,50V														1	
C6	ECQE1225KF	PFc	2.2uF,100V		1													
C6	ECQVIH105JZ	PFc	1uF,50V						1									
C8	ECEA1EKA330	Ec	22uF,25V,20%	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C9	ECEA1AKA330	Ec	22uF,10VDC,20%	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C15	ECBT1H102KB	Cc	1000pF,50VDC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C16	ECBT1H102KB	Cc	1000pF,50VDC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CNJ20	TM5RE2-66 No62306635	Modular Jack		1	1	1	1		1	1	1							
CNJ20	TM5RE2-64 No62304635	Modular Jack										1						
CNJ20	TM5RE2-62 No62302635	Modular Jack						1					1	1	1	1	1	1
CNJ21	TM5RE2-62 No62302635	Modular Jack					1	1					1	1	1	1	1	1
CNJ22	DF1B5P25DSA	Connector		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CNJ23	B13BPHKS	Connector		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
D1	SM1XN02 1SR139-200	Diode		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
D2	SM1XN02 1SR139-200	Diode		1	1	1	1	1		1	1	1	1	1	1	1	1	1
D3	SM1XN02 1SR139-200	Diode		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
D5	SM1XN02 1SR139-200	Diode		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
D6	RD62ES MTZJ62B	Zener Diode			1	1	1	1	1	1	1	1	1	1	1	1	1	1
D7	RD62ES MTZJ62B	Zener Diode			1	1	1	1	1	1	1	1	1	1	1	1	1	1
D8	RD36ES MTZJ36B	Zener Diode		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
D9	RD36ES MTZJ36B	Zener Diode		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
D10	SM-1XN02 ISR139-200	Diode					1				1							
F3	K19373	Fuse	100mA					1										
FG	TW4BS-2K	Strap Earth Lug		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
JP1	ERDS2TOT	CFr	0ohm,1/4W	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
JP2	ERDS2TOT	CFr	0ohm,1/4W	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

LCU PC Board (DZYCA0447)(2/2)

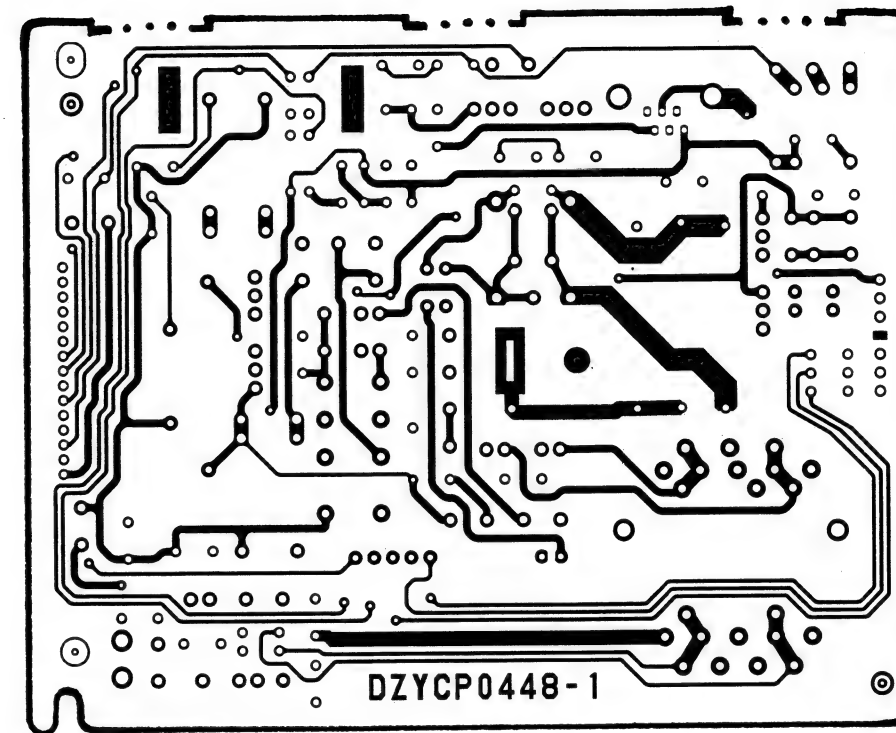
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Ref No	Part No.	Part Name	Description	DZYCA0447**														
				D	E	F	H	J	L	P	Q	R	T	YB	YV	YW	YX	
JP3A	ERDS2TOT	CFr	0ohm,1/4W	1	1	1			1	1								
JP3B	ERDS2TOT	CFr	0ohm,1/4W	1					1			1				1		
JP4A	ERDS2TOT	CFr	0ohm,1/4W		1	1	1			1	1							
JP4B	ERDS2TOT	CFr		1					1			1						
JP7A	ERDS2TOT	CFr	0ohm,1/4W	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
JP9	ERDS2TOT	CFr	0ohm,1/4W	1		1	1		1							1		
JP10	ERDS2TOT	CFr	0ohm,1/4W	1		1	1		1							1		
JP15	Not Mounted																	
JP16	Not Mounted																	
JP17	ERDS2T0T	CFr		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
JP18	ERDS2T0T	CFr		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
JP21	ERDS2TOT	CFr	0ohm,1/4W	1				1										
JP22	ERDS2TOT	CFr	0ohm,1/4W	1				1										
JP12A	ERDS2TOT	CFr	0ohm,1/4W	1		1	1	1		1	1	1	1	1	1	1	1	1
JP12B	ERDS2TOT	CFr	0ohm,1/4W	1														
L2	SBT0180W	Choke Coil		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
L4	SBT0180W	Choke Coil			1	1	1	1	1	1	1	1	1	1	1			
PC1	PS2501-1	Photo Coupler		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PC1	PC817B	Photo Coupler		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
R1	ERDS2TJ680	CFr	68ohm,1/4W						1									
R2	ERDS2TJ561	CFr	560ohm,1/4W		1	1		1		1	1	1	1	1	1	1	1	
R2	ERDS2TJ621	CFr	620ohm,1/4W	1														
R2	ERDS2TJ300	CFr	30ohm,1/4W						1									
R5	ERD1SJ562P	CFr	5.6kohm,1W													1		
R5	ERG1SJ223P	MOFr	22kohm,1W		1	1		1		1		1	1	1	1		1	
R5	ERG1SJ273P	MOFr	27kohm,1W								1							
R5	ERG1SJ333P	MOFr	33kohm,1W	1					1									
R5	ERG1SJ513P	MOFr	51kohm,1W				1											
R8	ERDS2TOT	CFr	0ohm,1/4W	1	1	1		1	1	1		1	1	1	1	1	1	1
R8	ERDS2TJ473	CFr	47kohm,1/4W				1				1							
R10	ERG1SJ100P	MOFr	10ohm,1W						1									
R11	ERG1SJ100P	MOFr	10ohm,1W						1									
R11	ERDS2TOT	CFr	0ohm,1/4W	1	1	1	1	1		1	1	1	1	1	1	1	1	1
R12	ERDS2TJ103	CFr	10kohm,1/4W,5%	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
RL1	DSB2M2DDC24V	Relay																
	MR622-24S2R		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
RL2	G5B1HDC24V	Relay																
	AJK8342		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
RL3	UPM15024YHL	Relay		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
RL5	ULR11915NVK	Relay(TE)		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
RL5	ULR11710SH	Relay(TE)																
T1	62059A	Line Transformer		1		1	1	1		1	1	1	1	1	1	1	1	1
T1	No63212	Line Transformer							1									
T1	No89487	Line Transformer			1													
T2	ETA19Z103AY	Line Transformer				1				1		1	1	1				
T2	ETA16Y56AY	Line Transformer			1				1							1	1	
T2	ETA19Z109AY	Line Transformer		1			1	1			1							1
TP1	YVL437TM027	Check Pin		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TP2	YVL437TM027	Check Pin		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
VR1	VR61B	Varistor																
	VR61BS		1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	VR61SS																	
ZNR1	ERZC14DK101	Varistor				1												



Component Loaded Side



Soldering Side



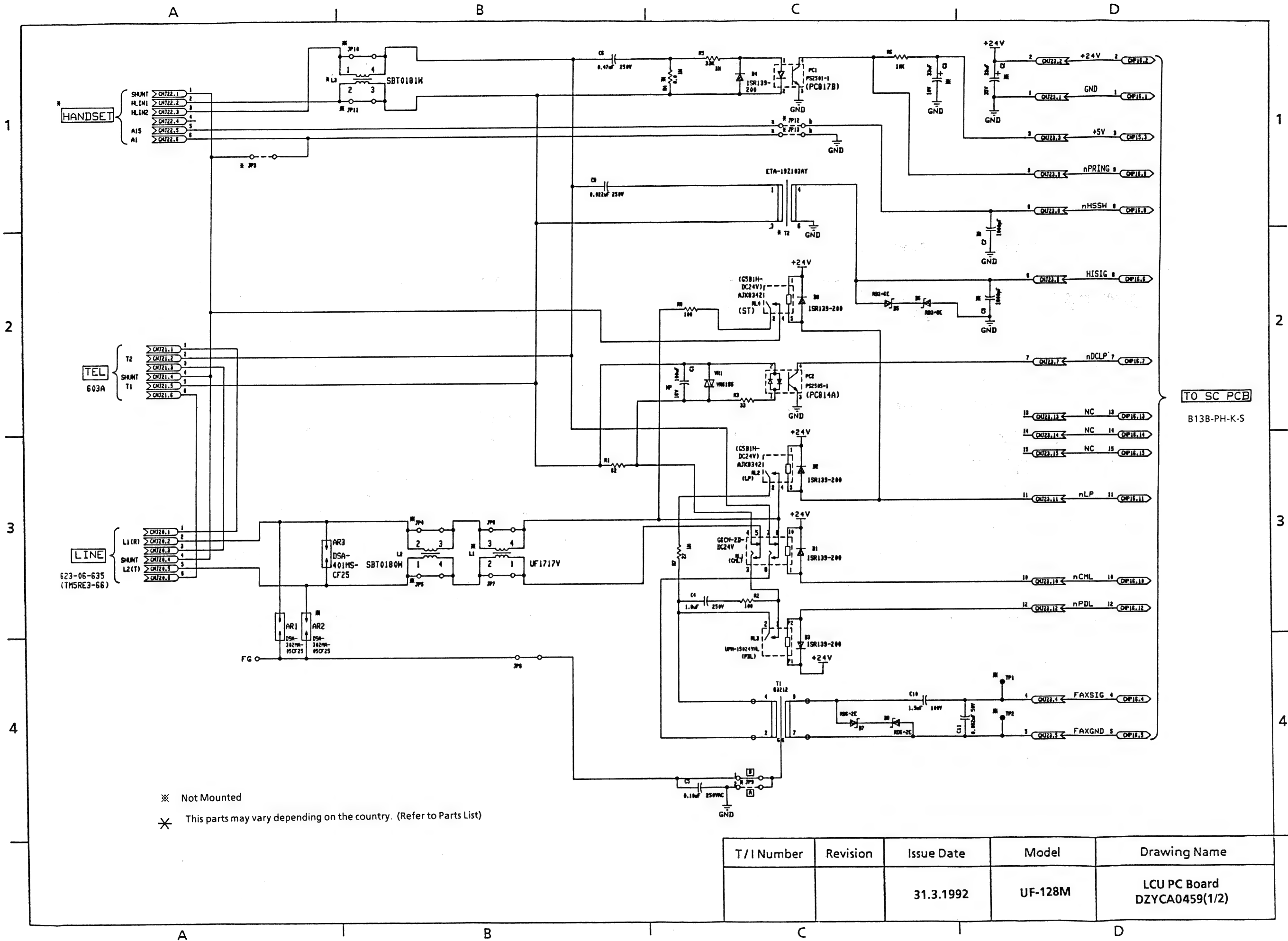
T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	LCU PC Board DZYCA0448(2/2)

7.4.2 LCU PC Board (DZYCA0448)(1/2)

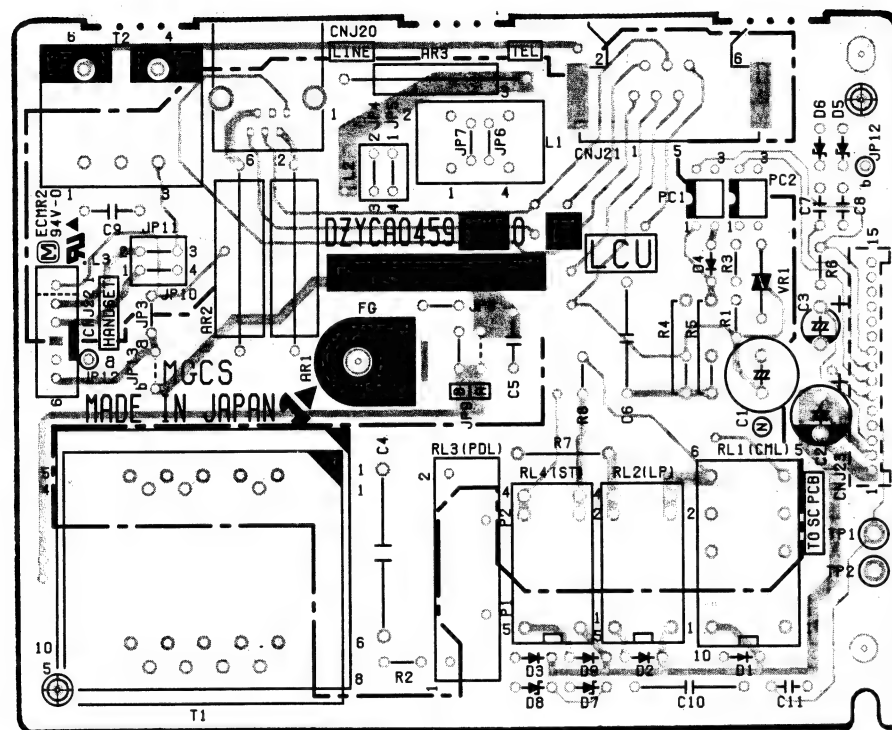
Country Code				A1	Austria			
				M1	Switzerland			
				N1	Norway			
				S1	Sweden			
Ref. No.	Part No.	Part Name	Description	DZYCA0448**				
				A1	M1	N1	S1	
AR1	DSA401MSCF25	Surge Absorber		1		1	1	
AR2	DSA401MSCF25	Surge Absorber		1		1	1	
C1	ECQB1H334JF	PFR	0.33uF 50V 5%	1		1	1	
C1	ECEA1CN470S	Ec	47uF NP 16V 20%		1			
C2	ECQE2105KF	PFR	1uF 250VDC	1	1	1	1	
C2	ECQE2105KF	PFR	1uF 250V	1	1	1		
C2	ECQE2185KF	PFR	1.8uF 250V				1	
C3	ECQE2474KF	PFR	0.47uF 250V 10%	1	1	1	1	
C4	ECQE2223KF	PFR	0.047uF 250V 10%		1			
C4	ECQE2473KF	PFR	0.047uF 250V			1		
C5	ECQB1H473JF	PFR	0.047uF 50V 5%	1			1	
C5	ECQB1H823JF	PFR	0.082uF 50V 5%		1			
C5	ECQB1H104JF	PFR	0.1uF 50V 5%			1		
C6	ECQV1H105JZ	PFR	1uF 50V			1		
C6	EDQE1155KF	PFR	1.5uF 100V		1			
C7	Not Mounted							
C8	Not Mounted							
C9	Not Mounted							
C10	ECQE4223KF	PFR	0.022uF 400V 10%		1			
C11	ECQM4332KZ	PFR	3300pF 400V 10%		1			
C15	Not Mounted							
C16	Not Mounted							
C18	Not Mounted							
C19	ECQE2333KF	PFR	0.033uF 250V 10%		1			
C20	ECQB1H334JF	PFR	0.33uF 50V				1	
CNJ20	TM5RE2-66 TM5RE3-66 No623-06-635	MODULAR JACK		1	1	1		
CNJ20	TM5RE2-64 TM5RE3-64 No623-04-635	MODULAR JACK					1	
CNJ23	B13BPHKS	CONNECTOR		1	1	1	1	
D1	SM1XN02 1SR139-200	DIODE		1	1	1	1	
D2	SM1XN02 1SR139-200	DIODE		1		1	1	
D3	SM1XN02 1SR139-200	DIODE		1	1	1	1	
D4	SM1XN02 1SR139-200	DIODE		1	1			
D5	SM1XN02 1SR139-200	DIODE		1	1	1	1	
D6	RD62ES MTZJ62B	DIODE,ZENER		1	1	1	1	
D7	RD62ES MTZJ62B	DIODE,ZENER		1	1	1	1	
D8	RD36ES MTZJ36B	DIODE,ZENER		1	1	1	1	
D9	RD36ES MTZJ36B	DIODE		1	1	1	1	
D10	SM1XN02 1SR139-200	DIODE				1		
D10	ERDS2TOT	Cr		1	1		1	
FG	TW4BS2K	Strap,Earth Lug		1	1	1	1	
HIC1	THS52	Current Ditector		1	1	1	1	
JP1	ERDS2TOT	Jr	0ohm 1/4W	1		1	1	
JP2	ERDS2TJOT	Jr	0ohm 1/4W	1		1		

LCU PC Board (DZYCA0448)(2/2)

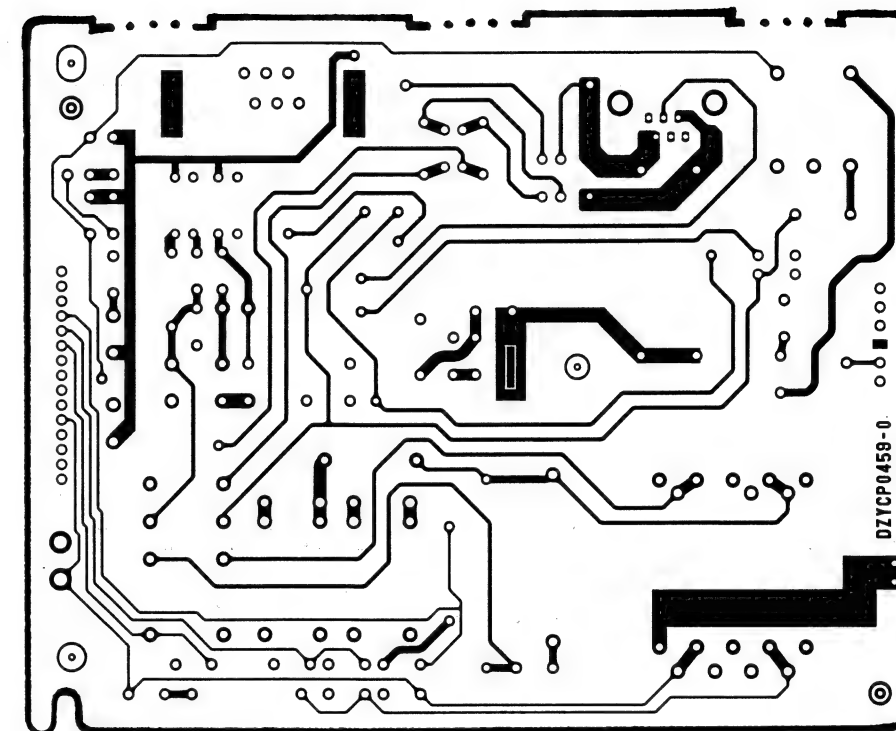
Country Code				A1	Austria			
				M1	Switzerland			
				N1	Norway			
				S1	Sweden			
Ref. No.	Part No.	Part Name	Description	DZYCA0448**				
				A1	M1	N1	S1	
JP5	ERDS2TOT	Jr	0ohm 1/4W				1	
JP6-B	Not Mounted							
JP7-A	ERDS2TOT	Jr	0ohm. 1/4W	1	1	1	1	
JP7-B	Not Mounted							
JP9	ERDS2TOT	Cj	0ohm 1/4W	1	1	1		
JP10	ERDS2TOT	Cj	0ohm 1/4W	1	1	1		
JP12	ERDS2TOT	Cj	0ohm 1/4W	1			1	
JP13	Not Mounted							
JP14	Not Mounted							
JP21	ERDS2TOT	Jr	0ohm 1/4W				1	
JP22	ERDS2TOT	Jr	0ohm 1/4W				1	
JP24	ERDS2TOT	Jr	0ohm 1/4W				1	
JP25	Not Mounted							
JP26	ERDS2TOT	Jr	0ohm 1/4W	1	1			
L1	PLA2021A	FILTER			1			
L2	STB0180W	CHOKE COIL		1	1	1	1	
L3	FL7H272J	FILTER			1			
L4	SBT0180W	CHOKE COIL		1	1	1		
L5	FL7H272J	FILTER					1	
L6	ERDS2TOT	Cr	0ohm 1/4W	1	1	1	1	
PC1	PC817B PS2501-1(W)	PHOTO CUPLER		1	1	1	1	
R2	ERDS2TJ221	CFr	220ohm 1/4W 5%	1				
R2	ERDS2TJ101	CFr	100ohm 1/4W 5%		1			
R2	ERDS2TJ561	CFr	560ohm 1/4W 5%			1		
R2	ERDS2TJ621	CFr	620ohm 1/4W 5%				1	
R5	ERG1SJ333P	MOFr	33kohm 1W 5%	1	1	1		
R5	ERG1SJ273P	MOFr	27kohm 1W 5%				1	
R6	Not Mounted							
R8	ERDS2TOT	CFr	0ohm 1/4W	1	1		1	
R8	ERG1SJ473	MOFr	47kohm 1W 5%			1		
R10	ERDS2TOT	CFr	0ohm 1/4W	1		1	1	
R10	ERDS2TJ680	CFr	68OHM 1/4W 5%		1			
R12	ERDS2TJ103	Cr	10kohm 1/4W	1	1	1	1	
R16	ERDS2TOT	CFr	0ohm 1/4W	1	1	1	1	
R17	ERDS2TOT	CFr	0ohm 1/4W	1		1	1	
RL1	DSB2M2DDC24V MR622-24S2R	RELAY		1	1	1	1	
RL2	AJK8342 G5B1HDC24V	RELAY		1		1	1	
RL3	UPM15024YHL	RELAY		1	1	1	1	
RL4	AJK8342 G5B1HDC24V	RELAY		1	1			
T1	62059A	TRANSFORMER		1			1	
T1	No62159	TRANSFORMER			1	1		
T2	ETA19Z103AY	TRANSFORMER		1	1			
T2	ETA19Z109AY	TRANSFORMER				1		
T2	ETA16Y56AY						1	
TP1	Not Mounted							
TP2	Not Mounted							
VR1	VR61SS VR61B VR61BS	VARIATOR			1			
VR2	Not Mounted							



Component Loaded Side



Soldering Side



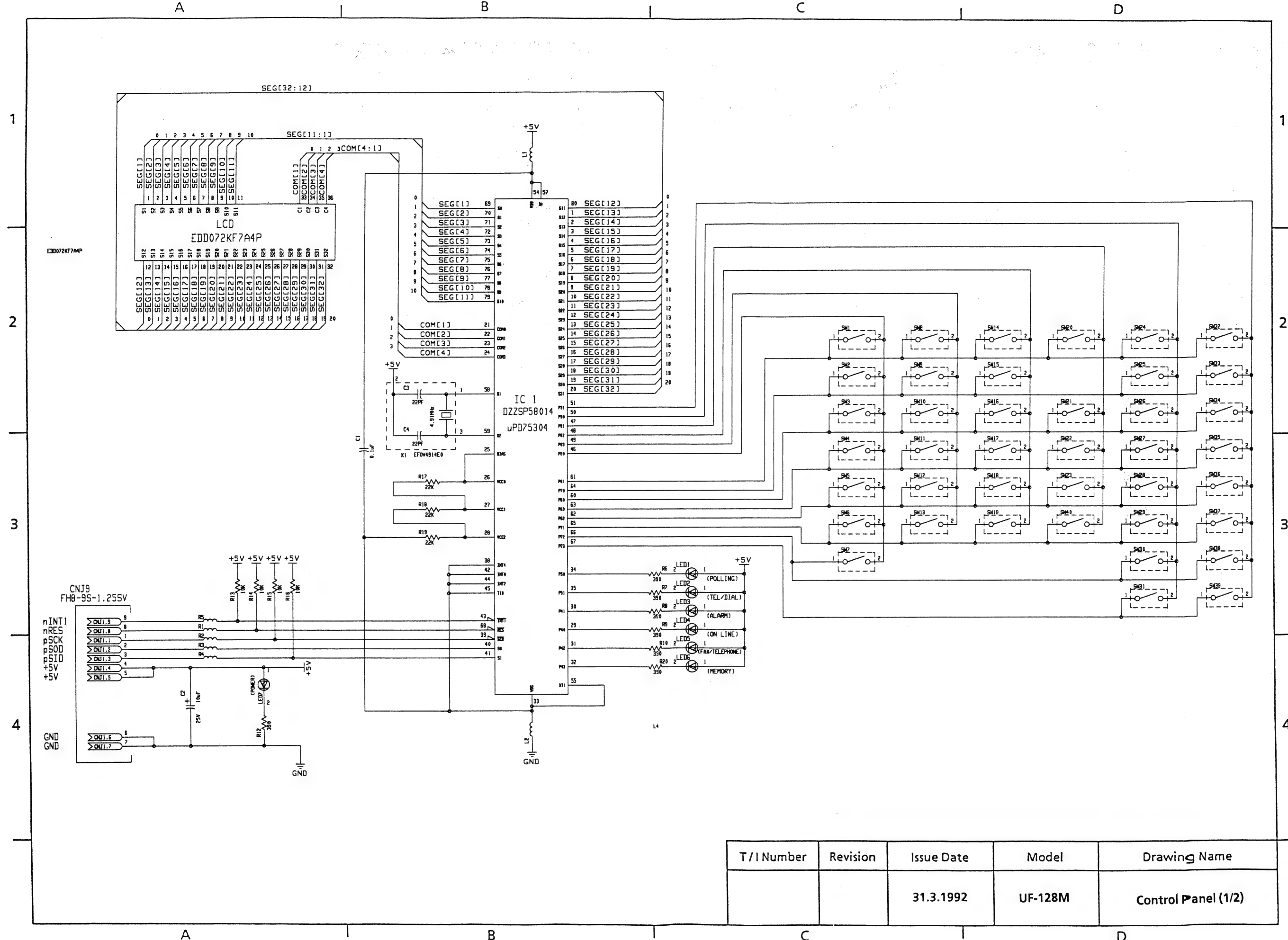
T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	LCU PC Board DZYCA0459(2/2)

7.4.3 LCU PC Board (DZYCA0459)(1/2)

Country Code		B1		UK	
		K1		Hong Kong , New Zealand	
Ref. No.	Part No.	Part Name	Description	DZYCA0459B1	DZYCA0459K1
AR1	DSA302MA	SURGE ABSORBER		1	1
AR2	DSA302MA	SURGE ABSORBER		1	1
AR3	DSA401MSCF25	SURGE ABSORBER		1	1
C1	ECEA1CN101S	Ec	100uF 16V N.P.	1	1
C2	Not Mounted				
C3	Not Mounted				
C4	ECQE2185KF	PFc	1.8uF 250V 10%	1	1
C5	ECQE2104KF	PFc	0.1uF 250VDC 10%	1	1
C6	ECQE2474KF	PFc	0.47uF 250VDC 10%	1	1
C7	Not Mounted			1	1
C8	Not Mounted			1	1
C9	ECQE2223KF	PFc	0.022uF 250V 10%	1	1
C10	ECQE1155JF	PFc	1.5uF 100VDC 5%	1	1
C11	ECQB1H823JF	PFc	0.082uF 50VDC 5%	1	1
CNJ20	TM5RE366	Modular Jack		1	1
	TM5RE266				
	No62306635				
CNJ21	603A	Modular Jack		1	1
CNJ22	DF1B6P25DSA	Connector			1
CNJ23	B13BPHKS	Connector		1	1
D1	1SR139200	Diode		1	1
	SM1XN02				
D2	1SR139200	Diode		1	1
	SM1XN02				
D3	1SR139200	Diode		1	1
	SM1XN02				
D4	1SR139200	Diode		1	1
	SM1XN02				
D5	MTZ36A	Zener Diode		1	1
	RD36ES				
D6	MTZ36A	Zener Diode		1	1
	RD36ES				
D7	MTZ62A	Zener Diode		1	1
	RD62ES				
D8	MTZ62A	Zener Diode		1	1
	RD62ES				
D9	1SR139200	Diode		1	1
	SM1XN02				
FG	TW4BS2K	Strap Earth Lug		1	1
JP4	Not Mounted				
JP5	Not Mounted				
JP6	ERDS2TOT	Cr	0ohm	1	1
JP7	ERDS2TOT	Cr	0ohm	1	1
JP8	ERDS2TOT	Cr	0ohm	1	1
JP9A	ERDS2TOT	Cr	0ohm	1	1
JP9B	ERDS2TOT	Cr	0ohm	1	1
JP10	Not Mounted				
JP11	Not Mounted				
JP12	AWG24	Jumper Wire			1
JP12	AWG26	Jumper Wire			1
JP13	ERDS2TOT	Cr			1
L1	Not Mounted				
L2	SBT0180W	Choke Coil		1	1
L3	SBT0180W	Choke Coil			1
PC1	PS25011(WC)	Photo Cupler		1	1
	PC817B				
PC2	PS25051(RC)	Photo Cupler		1	1
	PC814A				
R1	ERDS2TJ620	CFr	62ohm 1/4W 5%	1	1
R2	ERDS2TJ101	CFr	100ohm 1/4W 5%	1	1
R3	ERDS2TJ330	CFr	33ohm1/4W 5%	1	1

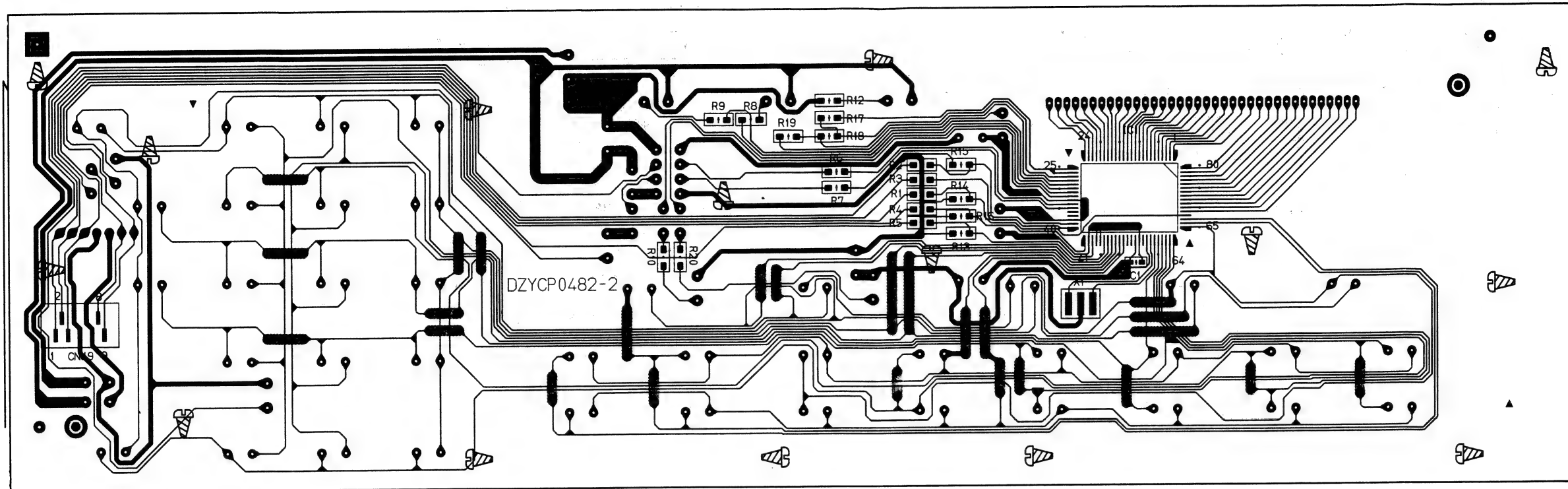
LCU PC Board (DZYCA0459)(2/2)

Country Code		B1		UK	
		K1		Hong Kong , New Zealand	
Ref. No.	Part No.	Part Name	Description	DZYCA0459B1	DZYCA0459K1
R4	Not Mounted				
R5	ERG1SJ333V	Tin Oxide Resistor	33kohm 1W 5%	1	1
R6	ERDS2TJ103	CFr	10kohm 1/4W 5%	1	1
R7	ERG1S270V	Tin Oxide Resistor	27ohm 1W 5%	1	1
R8	ERDS2TJ101	CFr	100ohm 1/4W 5%	1	1
RL1	G6CN2DDC24V	Relay		1	1
RL2	AJK8342	Relay		1	1
RL2	G5B1HDC24V	Relay		1	1
RL3	UPM15024YHL	Relay		1	1
RL4	AJK8342	Relay		1	1
RL4	G5B1HDC24V	Relay		1	1
T1	No63212	Line Transformer		1	1
T2	ETA19Z103AY	Line Transformer			1
T2	ETA19Z109AY	Line Transformer		1	
TP1	YVL437TM027	Check Pin		1	1
TP2	YVL437TM027	Check Pin		1	1
VR1	VR61SS	Varistor		1	1
	VR61B				
	VR61BS				

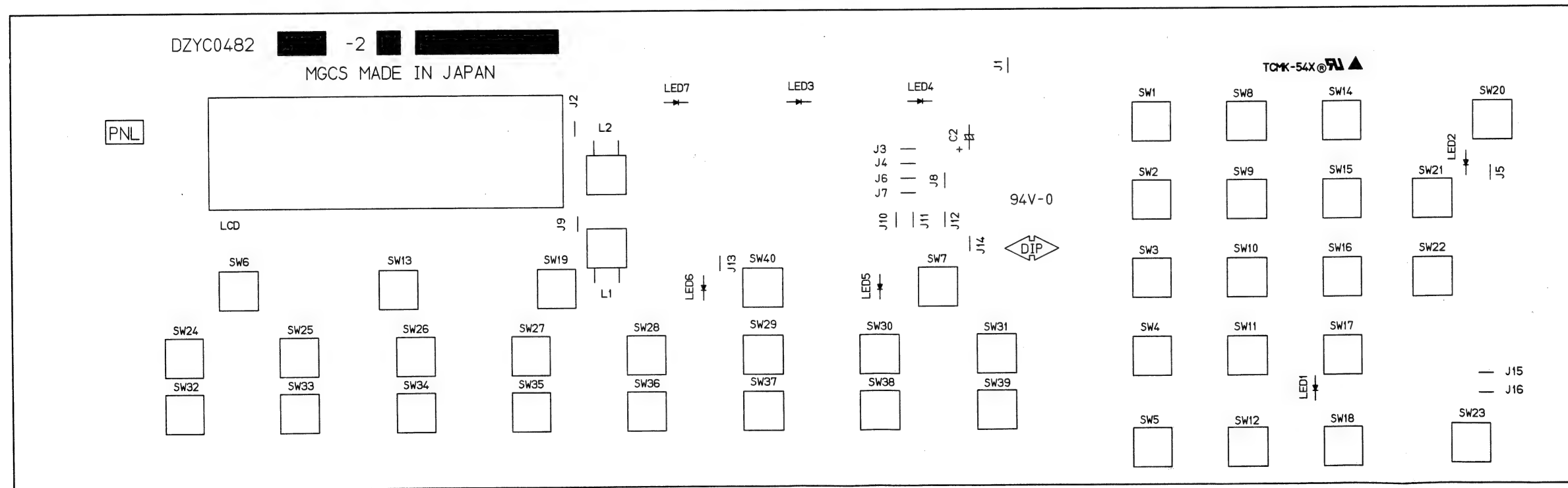


T / I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	Control Panel (1/2)

Component Loaded Side



Soldering Side



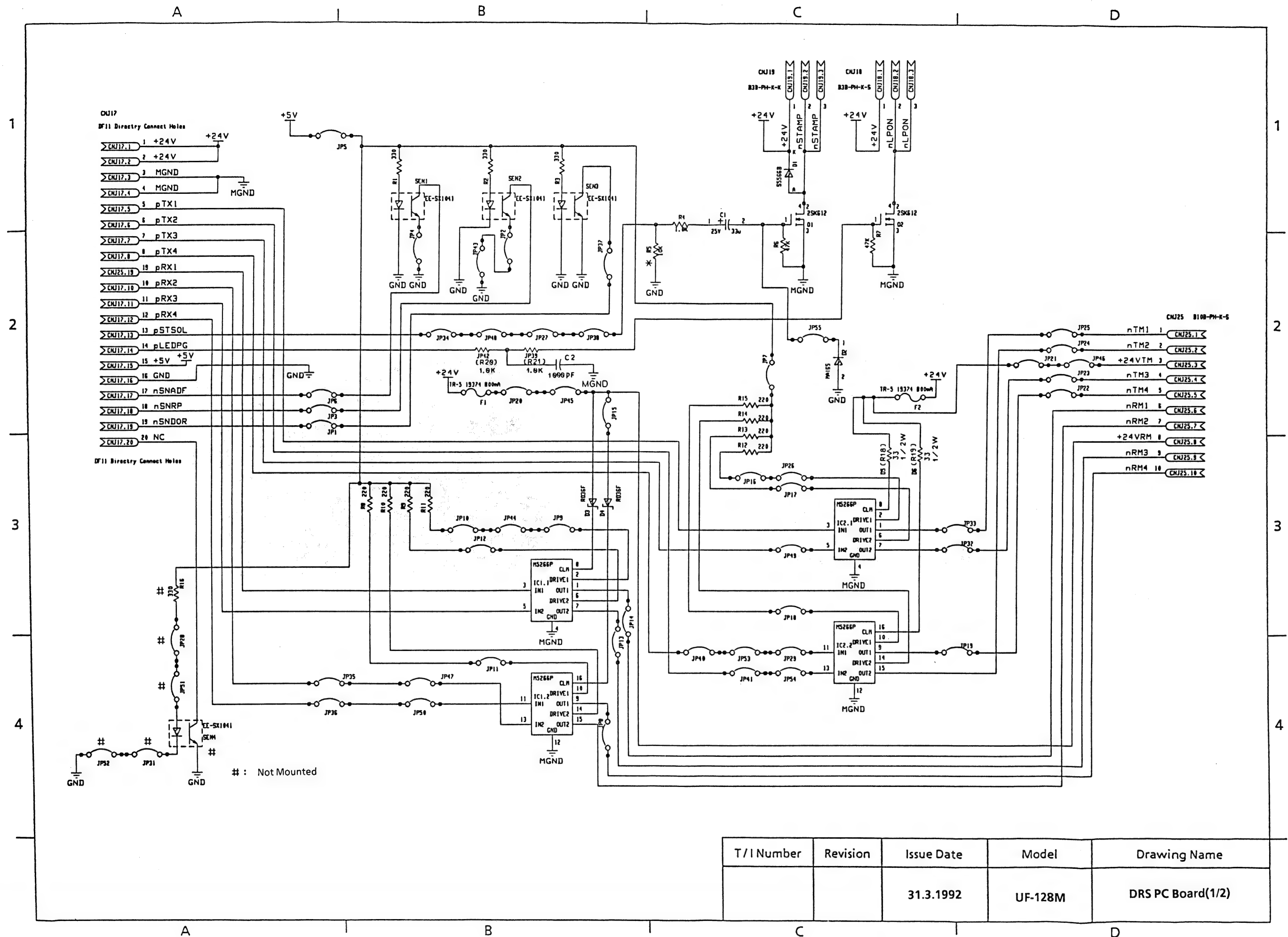
T / I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	Control Panel (2/2)

7.5 Control Panel (1/2)

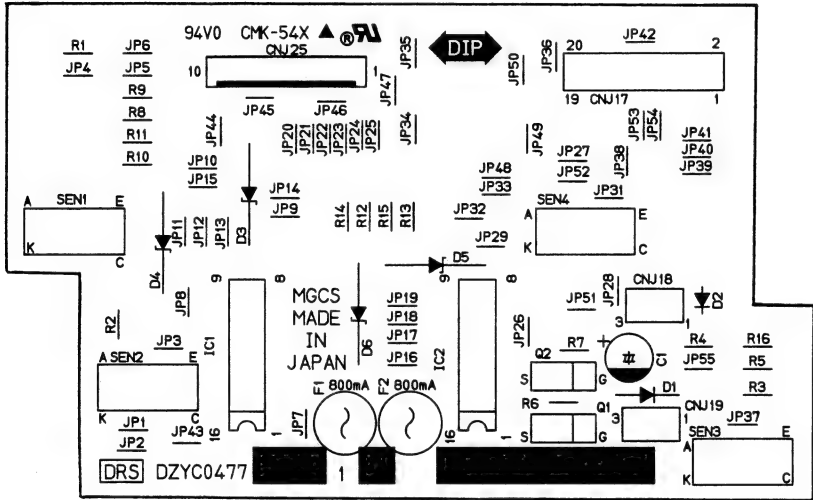
Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
C1	ECUV1H104ZFX	Cc	0.1uF 50V	R19	ERJ8GEYJ223V	Cr	22kohm 1/10W 5%
C2	ECEA1CKA100B	Ec	10uF 16V	R20	ERJ8GEYJ391V	Cr	390ohm 1/10W 5%
CNJ9	FH89S125SV	Connector		SW1	EVQ21504M	Keyboard Switch	
IC1	DZZSP58014	Control Panel CPU			SKHVBB		
JP1	ERDS2TOT	Jr		SW2	EVQ21504M	Keyboard Switch	
JP2	ERDS2TOT	Jr			SKHVBB		
JP3	ERDS2TOT	Jr		SW3	EVQ21504M	Keyboard Switch	
JP4	ERDS2TOT	Jr			SKHVBB		
JP5	ERDS2TOT	Jr		SW4	EVQ21504M	Keyboard Switch	
JP6	ERDS2TOT	Jr			SKHVBB		
JP7	ERDS2TOT	Jr		SW5	EVQ21504M	Keyboard Switch	
JP8	ERDS2TOT	Jr			SKHVBB		
JP9	ERDS2TOT	Jr		SW6	EVQ21504M	Keyboard Switch	
JP10	ERDS2TOT	Jr			SKHVBB		
JP11	ERDS2TOT	Jr		SW7	EVQ21504M	Keyboard Switch	
JP12	ERDS2TOT	Jr			SKHVBB		
JP13	ERDS2TOT	Jr		SW8	EVQ21504M	Keyboard Switch	
JP14	ERDS2TOT	Jr			SKHVBB		
JP15	ERDS2TOT	Jr		SW9	EVQ21504M	Keyboard Switch	
JP16	ERDS2TOT	Jr			SKHVBB		
L1	EXCELD25V	Ferrite Beads		SW10	EVQ21504M	Keyboard Switch	
L1	ZBF503D-00(TA)				SKHVBB		
L2	EXCELD25V	Ferrite Beads		SW11	EVQ21504M	Keyboard Switch	
L2	ZBF503D-00(TA)				SKHVBB		
LCD	EDD072KF7A4P	LCD		SW12	EVQ21504M	Keyboard Switch	
LED1	LN01301C(Q)(TA)	Green			SKHVBB		
LED2	LN01301C(Q)(TA)	Green		SW13	EVQ21504M	Keyboard Switch	
LED3	LN01201C(Q)(TA)	Red			SKHVBB		
LED4	LN01301C(Q)(TA)	Green		SW14	EVQ21504M	Keyboard Switch	
LED5	LN01301C(Q)(TA)	Green			SKHVBB		
LED6	LN01401C(Q)(TA)	Amber		SW15	EVQ21504M	Keyboard Switch	
LED7	LN01301C(Q)(TA)	Green			SKHVBB		
R1	HF50ACB3216	Ferrite Chip Inductor		SW16	EVQ21504M	Keyboard Switch	
R2	HF50ACB3216	Ferrite Chip Inductor			SKHVBB		
R3	HF50ACB3216	Ferrite Chip Inductor		SW17	EVQ21504M	Keyboard Switch	
R4	HF50ACB3216	Ferrite Chip Inductor			SKHVBB		
R5	HF50ACB3216	Ferrite Chip Inductor		SW18	EVQ21504M	Keyboard Switch	
R6	ERJ8GEYJ391V	Cr	390ohm 1/10W 5%		SKHVBB		
R7	ERJ8GEYJ391V	Cr	390ohm 1/10W 5%	SW19	EVQ21504M	Keyboard Switch	
R8	ERJ8GEYJ391V	Cr	390ohm 1/10W 5%		SKHVBB		
R9	ERJ8GEYJ391V	Cr	390ohm 1/10W 5%	SW20	EVQ21504M	Keyboard Switch	
R10	ERJ8GEYJ391V	Cr	390ohm 1/10W 5%		SKHVBB		
R12	ERJ8GEYJ391V	Cr	390ohm 1/10W 5%	SW21	EVQ21504M	Keyboard Switch	
R13	ERJ8GEYJ103V	Cr	10kohm 1/10W 5%		SKHVBB		
R14	ERJ8GEYJ103V	Cr	10kohm 1/10W 5%	SW22	EVQ21504M	Keyboard Switch	
R15	ERJ8GEYJ103V	Cr	10kohm 1/10W 5%		SKHVBB		
R16	ERJ8GEYJ103V	Cr	10kohm 1/10W 5%	SW23	EVQ21504M	Keyboard Switch	
R17	ERJ8GEYJ223V	Cr	22kohm 1/10W 5%		SKHVBB		
R18	ERJ8GEYJ223V	Cr	22kohm 1/10W 5%	SW24	EVQ21504M	Keyboard Switch	
					SKHVBB		
				SW25	EVQ21504M	Keyboard Switch	
					SKHVBB		
				SW26	EVQ21504M	Keyboard Switch	
					SKHVBB		

Control Panel (2/2)

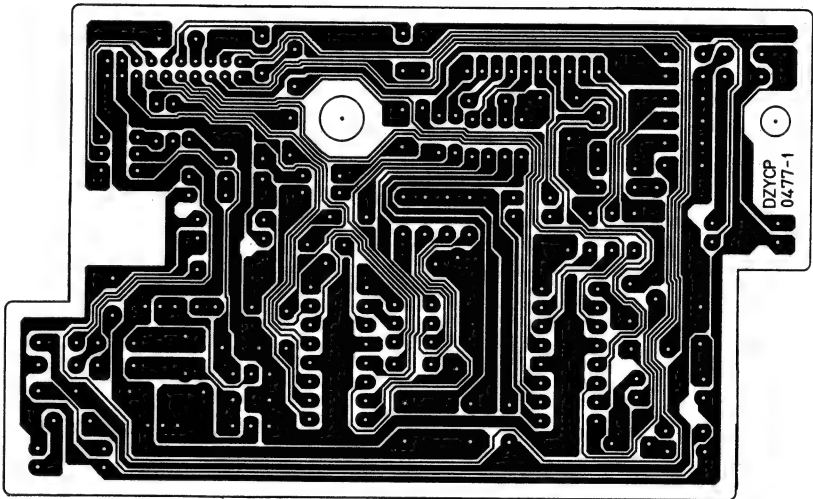
Ref. No.	Part No.	Part Name	Description
SW26	SKHVBB	Keyboard Switch	
SW27	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW28	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW29	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW30	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW31	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW32	ECQ-21504M	Keyboard Switch	
	SKHVBB		
SW33	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW34	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW35	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW36	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW37	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW38	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW39	EVQ21504M	Keyboard Switch	
	SKHVBB		
SW40	EVQ21504M	Keyboard Switch	
	SKHVBB		
X1	EF0V4914E0	Ceramic Oscillator	4.91MHz



Component Loaded Side



Soldering Side



T / I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	DRS PC Board(2/2)

7.6 DRS PC Board (1/1)

Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
C1	ECEA1EKS330	Ec	33uF 25V	JP43	ERDS2TOT	Jr	
C2	ECUV1H102KBN	Cc	1000pF 50V	JP44	ERDS2TOT	Jr	
CNJ17	DZBAV8702	Rlibbon Cable		JP45	ERDS2TOT	Jr	
CNJ18	B3BPHKS	Connector		JP46	ERDS2TOT	Jr	
CNJ19	B3BPHKK	Connector		JP47	ERDS2TOT	Jr	
CNJ25	B10BPHKS	Connector		JP48	ERDS2TOT	Jr	
D1	S5566B	Diode	1A 100V	JP49	ERDS2TOT	Jr	
D2	MA165	Diode		JP50	ERDS2TOT	Jr	
D3	RD36F	Zener Diode	36V 1W	JP51	ERDS2TOT	Jr	
D4	RD36F	Zener Diode	36V 1W	JP52	ERDS2TOT	Jr	
F1	TR5 19374	Fuse	800mA	JP53	ERDS2TOT	Jr	
F2	TR5 19374	Fuse	800mA	JP54	ERDS2TOT	Jr	
IC1	M5266P	Current Driver	2A 80V	JP55	ERDS2TOT	Jr	
IC2	M5266P	Current Driver	2A 80V	Q1	2SK612	Power Mos Fet	2A
JP1	ERDS2TOT	Jr		Q2	2SK612	Power Mos Fet	2A
JP2	ERDS2TOT	Jr		R1	ERDS2TJ331T	CFr	330ohm 1/4W 5%
JP3	ERDS2TOT	Jr		R2	ERDS2TJ331T	CFr	330ohm 1/4W 5%
JP4	ERDS2TOT	Jr		R3	ERDS2TJ331T	CFr	330ohm 1/4W 5%
JP5	ERDS2TOT	Jr		R4	ERDS2TJ102T	CFr	1Kohm 1/4W 5%
JP6	ERDS2TOT	Jr		R5	ERDS2TJ103T	CFr	10Kohm 1/4W 5%
JP7	ERDS2TOT	Jr		R6	ERDS2TJ473T	CFr	47Kohm 1/4W 5%
JP8	ERDS2TOT	Jr		R7	ERDS2TJ473T	CFr	47Kohm 1/4W 5%
JP9	ERDS2TOT	Jr		R8	ERDS2TJ221T	CFr	220ohm 1/4W 5%
JP10	ERDS2TOT	Jr		R9	ERDS2TJ221T	CFr	220ohm 1/4W 5%
JP11	ERDS2TOT	Jr		R10	ERDS2TJ221T	CFr	220ohm 1/4W 5%
JP12	ERDS2TOT	Jr		R11	ERDS2TJ221T	CFr	220ohm 1/4W 5%
JP13	ERDS2TOT	Jr		R12	ERDS2TJ221T	CFr	220ohm 1/4W 5%
JP14	ERDS2TOT	Jr		R13	ERDS2TJ221T	CFr	220ohm 1/4W 5%
JP15	ERDS2TOT	Jr		R14	ERDS2TJ221T	CFr	220ohm 1/4W 5%
JP16	ERDS2TOT	Jr		R15	ERDS2TJ221T	CFr	220ohm 1/4W 5%
JP17	ERDS2TOT	Jr		R18	ERDS1TJ330	CFr	33ohm 1/2W 5%
JP18	ERDS2TOT	Jr		R19	ERDS1TJ330	CFr	33ohm 1/2W 5%
JP19	ERDS2TOT	Jr		R20	ERDS2TJ102T	CFr	1kohm 1/4W 5%
JP20	ERDS2TOT	Jr		R21	ERDS2TJ102T	CFr	
JP21	ERDS2TOT	Jr		SEN1	EESX1041	Photoelectric Microsensor	5mm
JP22	ERDS2TOT	Jr		SEN2	EESX1041	Photoelectric Microsensor	5mm
JP23	ERDS2TOT	Jr		SEN3	EESX1041	Photoelectric Microsensor	5mm
JP24	ERDS2TOT	Jr					
JP25	ERDS2TOT	Jr					
JP26	ERDS2TOT	Jr					
JP27	ERDS2TOT	Jr					
JP28	ERDS2TOT	Jr					
JP29	ERDS2TOT	Jr					
JP31	ERDS2TOT	Jr					
JP32	ERDS2TOT	Jr					
JP33	ERDS2TOT	Jr					
JP34	ERDS2TOT	Jr					
JP35	ERDS2TOT	Jr					
JP36	ERDS2TOT	Jr					
JP37	ERDS2TOT	Jr					
JP38	ERDS2TOT	Jr					
JP40	ERDS2TOT	Jr					
JP41	ERDS2TOT	Jr					

"CAUTION-FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATINGS OF FUSE."

T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	PSU (2/3) 100V:ETX-998D8A

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Soldering side

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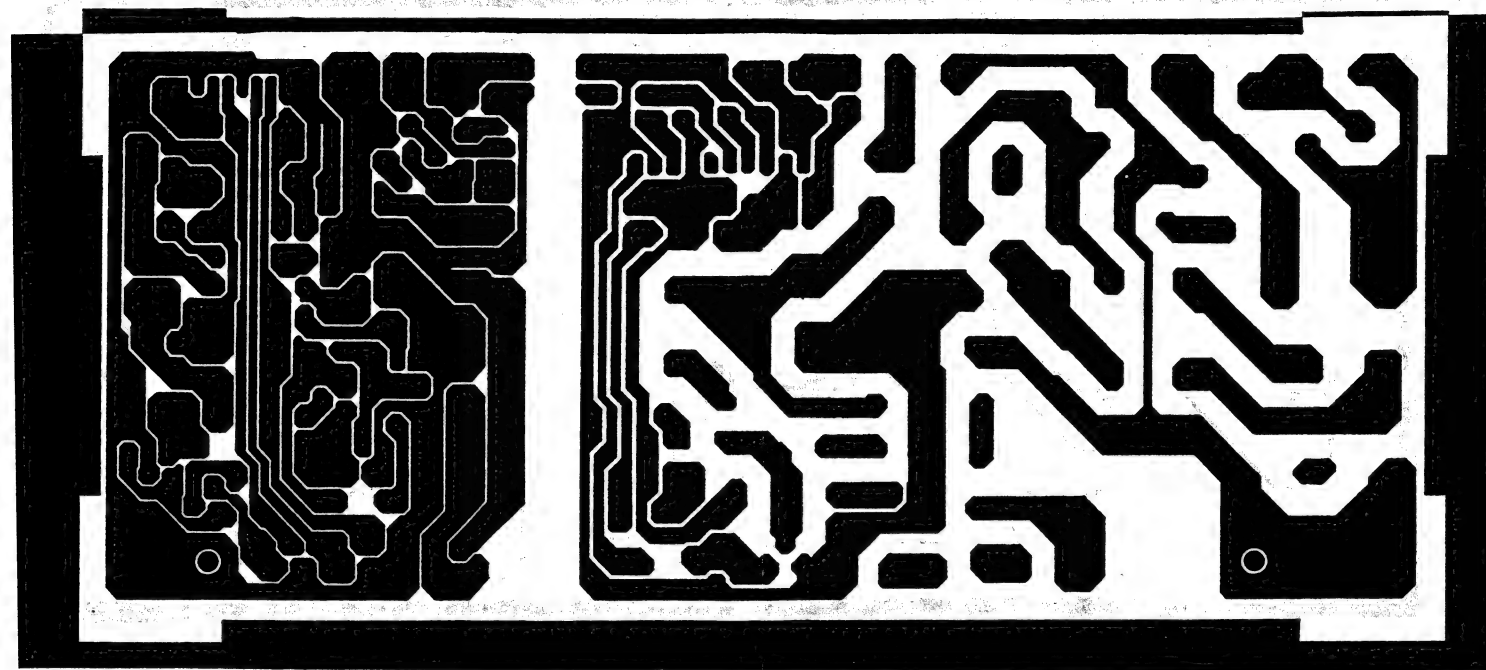
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T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	PSU (3/3) 100V:ETX-998D8A

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7.7.1 Power Supply Unit : 100V Version (ETX-998D8A)(1/2)

Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description	
C101	ECQB2A224MWB	PFc	250V	MC101	ML32E1	Control Module		
C102	ACKC102KT	Cc		NPX998A	NPZ998A1	Printed Circuit Board Material		
	ECKRNS102KB							
C103	ACKC102KT	Cc		PC101	VPPS2501-1HC	Photo Coupler		
	ECKRNS102KB			Q101	VKIRFM840HD	MOS FET		
C104	ACKC471KT	Cc		Q201	2SC3311AQTA	Transistor	0.3W 50V	
	ECKRNS471MB				2SC1685QTA	Transistor	0.4W 50V	
C105	ACKC471KT	Cc			2SC1740QTA	Transistor	0.3W 40V	
	ECKRNS471MB				2SD1423AQTA	Transistor	0.3W 50V	
C106	ECQE2A104MWB	PFc		Q211	2SK1060L1HD	MOS FET		
C107	ACKC102KT	Cc		Q212	2SC1318Q	Transistor	0.62W 50V	
C108	ACKC102KT	Cc			2SC1741A	Transistor	0.4W 50V	
	ECKRNS102MB		Q221	2SB1030AQTA	Transistor	0.3W 50V		
C109	ECOS2AD331CA	Ec			2SA720ARTA	Transistor	0.6W 80V	
C111	ECEA1VFS220B	Ec		Q222	2SB103AQTA	Transistor	0.3W 50V	
C112	ECKR3A221KBM	Cc			2SA720ARTA	Transistor	0.6W 80W	
C202	ECA1VFZ221Q	Ec	35V 220uF	R101	ERDS1TJ474	CFr	1/2W 470kohm 5%	
C203	ECQB1H182KF3	PFc	50V 1800pF	R102	ERDS1TJ183	CFr	1/2W 18kohm 5%	
C206	ACHRR2R102KT	Cc	250V 1000pF	R103	ERDS1TJ183	CFr	1/2W 18kohm 5%	
C211	ACHRR2R471KT	Cc	250V 470pF	R104	ERDS1TJ822	CFr	1/2W 8.2kohm 5%	
C212	ECQB1H103JF3	PFc	50V 0.01uF	R105	ERDS2TJ393	CFr	1/4W 39kohm 5%	
C213	ECQB1H222JF3	PFr	50V 2200pF	R106	ERDS2TJ272	CFr	1/4W 2.7kohm 5%	
C221	ECEA1VFS470B	Ec	35V 47uF	R107	ERDS2TJ471	CFr	1/4W 470ohm 5%	
C222	ECEA1VFS470B	Ec	35V 47uF	R108	ERG12SJU270V	MOFr	1/2W 270ohm 5%	
C223	ECE1AFZ331Q	Ec	10V 330uF	R109	ERDS2TJ562	CFr	1/4W 5.6kohm 5%	
C224	ECEA1AGE101B	Ec	10V 100uF	R111	ERX1SJU8R2V	MFr	1W 8.2ohm	
C226	ACHRR2R472KT	PFc	100V 4700pF	R112	ERG125JU220V	MOFr	1/2W 220ohm	
CN30	AKB12BPHKS	Connector		R201	ERDS1TJ222T	CFr	1/2W 2.2kohm 5%	
CN31	AKB2P3VH	Connector		R203	ERDS2TJ122T	CFr	1/4W 1.2kohm 5%	
D101	VDD2SBA40F2	Rectifier Diode		R204	ERDS2TJ562T	CFr	1/4W 5.6kohm 5%	
D102	MA700ATA	Diode		R205				
D103	VDAL01ZT	Diode		R206	ERDS2TJ332T	CFr	1/4W 3.3kohm 5%	
	VDERA91-02T			R207	ERDS2TJ222T	CFr	1/4W 2.2kohm 5%	
D201	MA649HD	Diode	200V 5A	R211	ERDS2TJ223T	CFr	1/4W 22kohm 5%	
D211	VD1SS270AT	Diode	60V 0.15A	R212	ERDS1TJ820T	CFr	1/2W 82ohm 5%	
D211	MA166TA	Diode	50V 0.1A	R213	ERDS2TJ182T	CFr	1/4W 1.8kohm 5%	
D221	VDERA91-02T	Diode	200V 1.0A	R214	ERDS2TJ272T	CFr	1/4W 2.7kohm 5%	
	VDAL01ZT			R221	ERG1SJU681V	MOFr	1W 680ohm	
D222	VDERA91-02T	Diode	200V 1.0A	R223	ERDS2TJ152T	CFr	1/4W 1.5kohm 5%	
	VDAL01ZT			R224	ERDS2TJ102T	CFr	1/4W 1.0kohm 5%	
D223	VDD3S4MG1	Diode	40V 3A	R226	ERDS2TJ102T	CFr	1/4W 1.0kohm 5%	
	VDSB340G1			T101	ETB28KA704A	Switching Transformer		
F101	HU315BE	Cartridge Fuse		T201	ETB19KA12A	Transformer		
L101	ELF18D290T	Line Choke		TH101	ATNTH11D8ROT	Termistor	2.2W 8ohm	
L102	ELF18D290T	Line Choke		TH221	PTH9N04BE471	Posistor		
L103	EXCELDLR35V	Ferrite Bead Inductor		VR101	AVVZ067LP54	Vr	0.1W 50kohm	
L104	EXCELDLR35V	Ferrite Bead Inductor			AVVG067LP54	Vr	0.2W 50kohm	
					EVM48GA00B54	Vr	0.3W 50kohm	
L211	EXCELSA35T	Ferrite Bead Inductor		VR201	AVVG067LP53	Vr		
L221	AY31005	Choke			AVVZ067LP53	Vr		
					EVM48GA00B53	Vr		
				Z101	ERZC10DK271U	Varistor		

Power Supply Unit : 100V Version (ETX-998D8A)(2/2)

Ref. No.	Part No.	Part Name	Description
Z101	ATENC271D10T	Varistor	
Z102	ERZC14DK182U	Varistor	
	ATENC182D14F		
Z103	ERZC10DK681U	Varistor	
	ATENC681D10T		
ZD101	MA4068HTA	Zener Diode	
ZD201	MA4062MTA	Zener Diode	
	VZRD18JSB2T		
	VZRD51JSB2T		

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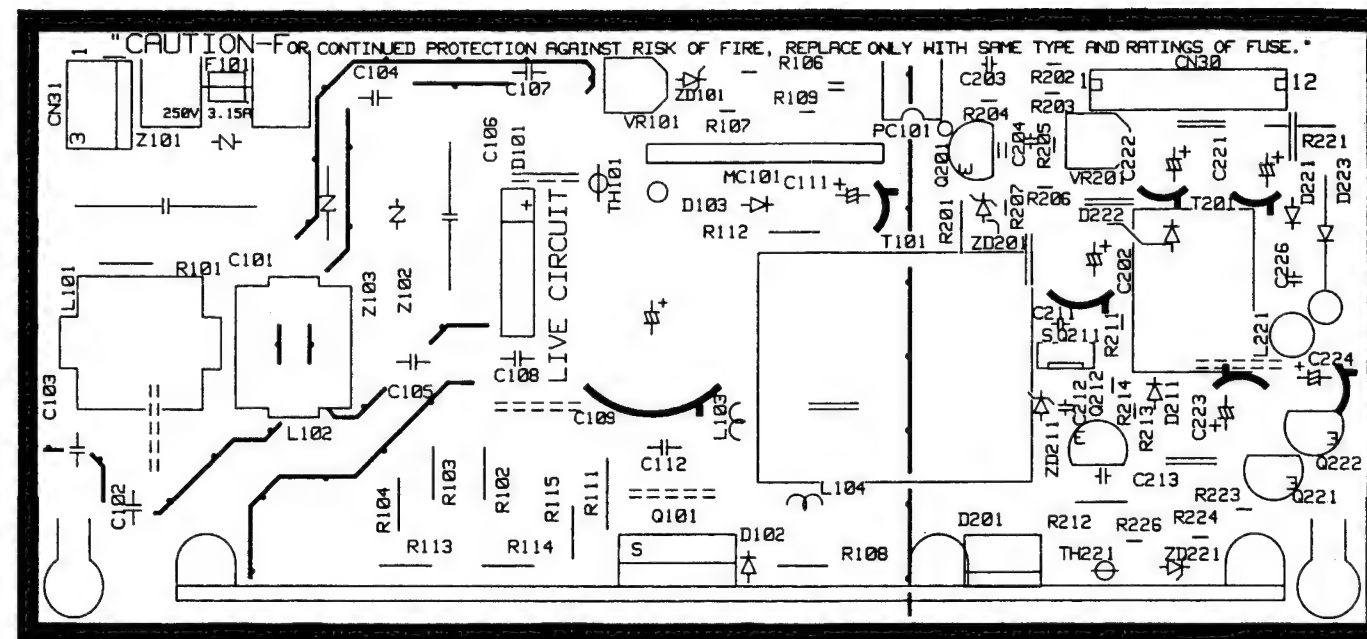
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Component loaded side



T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	PSU (2/3) 200V:ETX-998D8E

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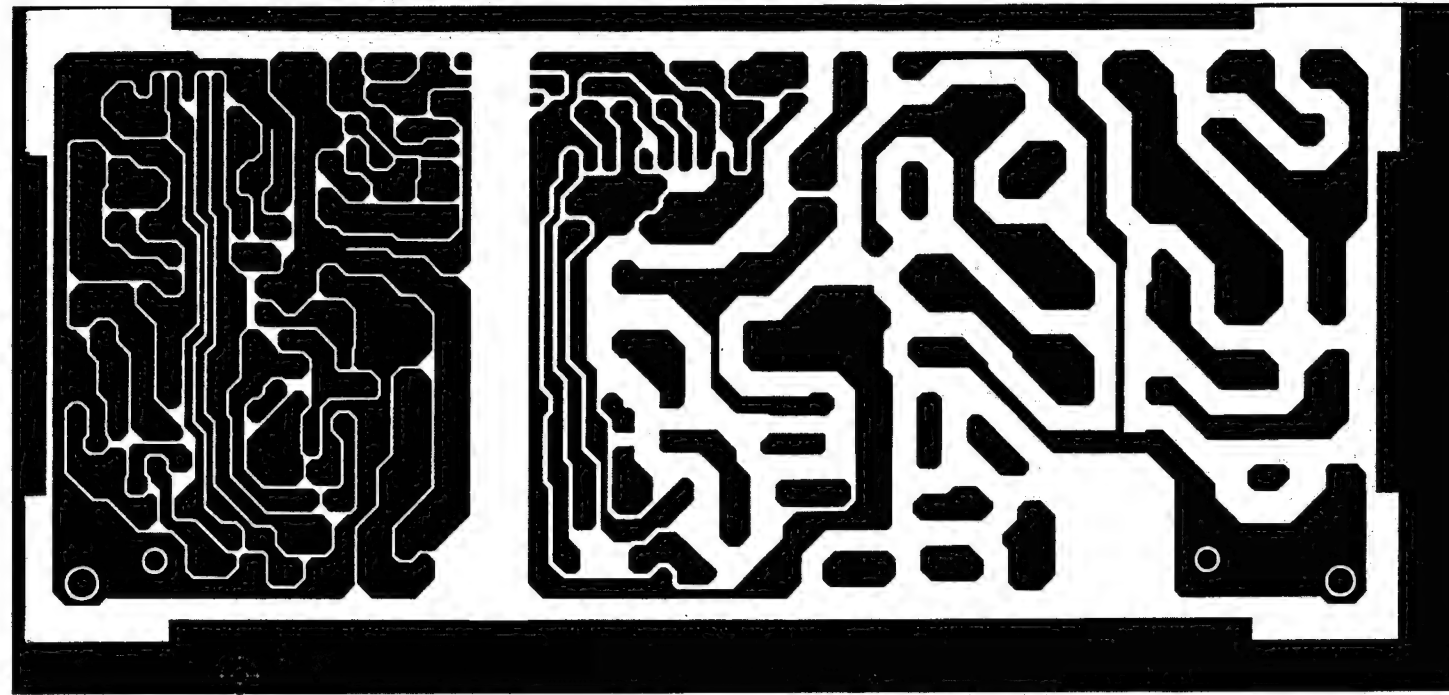
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Soldering side



T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	PSU (3/3) 200V:ETX-998D8E

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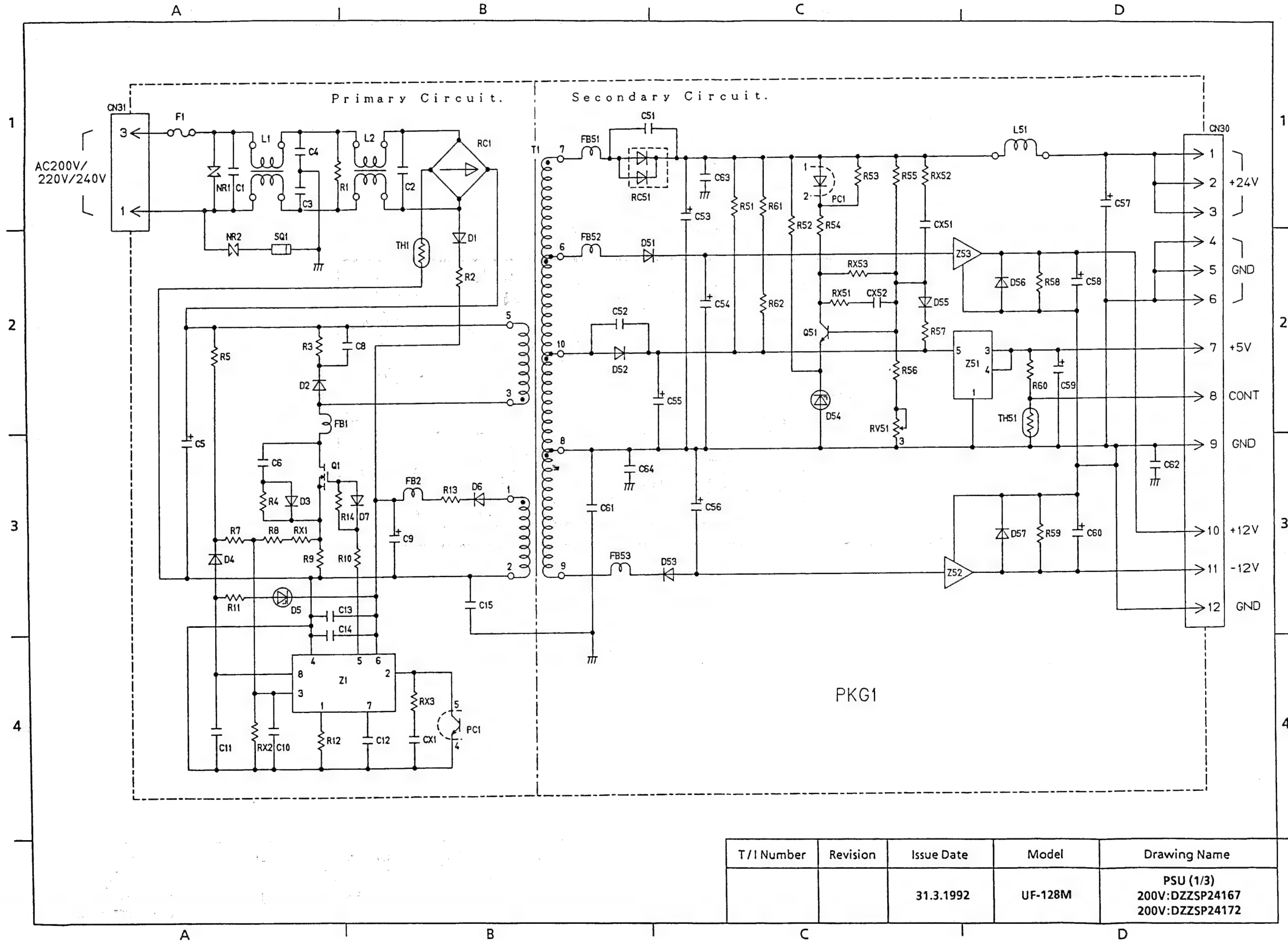
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7.7.2 Power Supply Unit : 200V Version (ETX-998D8E)(1/2)

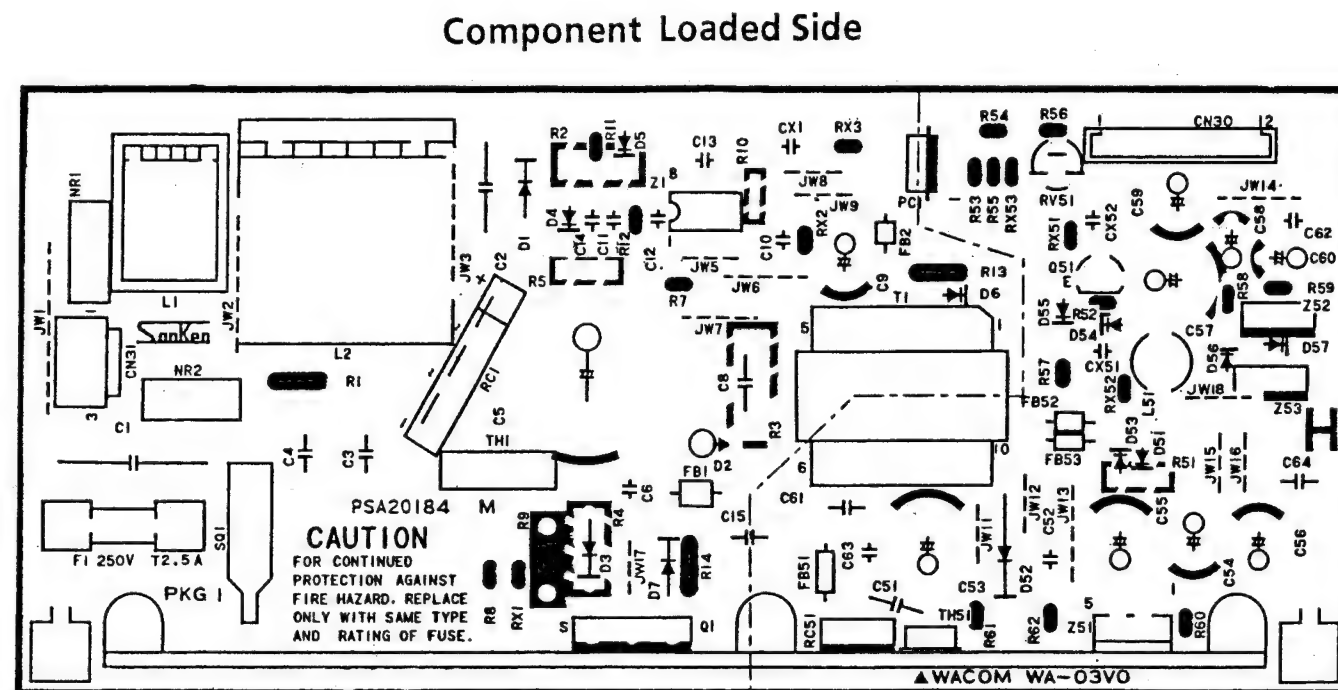
Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
C101	ECQU2A474MV	PFc	250V 0.47uF	NPX998A	NPX998E1	Printed Circuit Board Material	
C102	ACKC222M	Cc		PC101	VPPS2652	Photo Coupler	
	ECKRNS222M				TLP634		
C103	ACKC222M	Cc		Q101	2SK1082	MOS FET	
	ECKRNS222M				VKIRFPF10HD		
C104	ACKC472M	Cc		Q201	2SC3311AQT	Transistor	0.3W 50V
	ECKRNS472M				2SC1685QT	Transistor	0.4W 50V
C105	ACKC472M	Cc			2SC1740QT	Transistor	0.3W 40V
	ECKRNS472M				2SD1423AQT	Transistor	0.3W 50V
C106	ECQU2A224MV	PFc		Q211	2SK1060L1H	MOS FET	
C107	ACKC471K	Cc		Q212	2SC1318Q	Transistor	0.62W 50V
C108	ACKC471K	Cc			2SC1741A	Transistor	0.4W 50V
	ECKRNS471K			Q221	2SB1030AQT	Transistor	0.3W 50V
C109	ECOS2GA820C	Ec			2SA720ART	Transistor	0.6W 80V
C111	ECEA1VFS220	Ec		Q222	2SB1030AQT	Transistor	0.3W 50V
C112	ECKR3D221KB	Cc			2SA720ART	Transistor	0.6W 80W
C202	ECA1HFZ181L	Ec	50V 180uF	R101	ERDS1TJ474	CFr	1/2W 470kohm 5%
C203	ECQB1H182KF3	PFc	50V 1800pF	R102	ERDS1TJ223	CFr	1/2W 22kohm 5%
C206	ACHRR2R102KT	Cc	250V 1000pF	R103	ERDS1TJ223	CFr	1/2W 22kohm 5%
C211	ACHRR2R471K	Cc	250V 470pF	R104	ERDS1TJ223	CFr	1/2W 22kohm 5%
C212	ECQB1H103JF3	PFc	50V 0.01uF	R105		JUMPER	
C213	ECQB1H222JF3	PFr	50V 2200pF	R106	ERDS2TJ681	CFr	1/4W 680ohm 5%
C221	ECEA1VFS470	Ec	35V 47uF	R107	ERDS2TJ471	CFr	1/4W 470ohm 5%
C222	ECEA1VFS470	Ec	35V 47uF	R108	ERG12SJU220V	MOFr	1/2W 22ohm 5%
C223	ECA1AFZ331	Ec	10V 330uF	R109	ERDS2TJ562	CFr	1/4W 5.6kohm 5%
C224	ECEA1AGE101	Ec	10V 100uF	R111	ERX1SJUR2V	MFr	1W 8.2ohm
C226	ACHRR2R472K	PFc	250V 4700pF	R112	ERG12SJU220V	MOFr	1/2W 22ohm
CN30	AKB12BPHKS	Connector		R113	ERDS1TJ223T	CFr	1/2W 22kohm 5%
CN31	AKB2P3VH	Connector		R114	ERDS1TJ223T	CFr	1/2W 22kohm 5%
D101	VDD2SBA60F2	Rectifier Diode	600V 1.5A	R115	ERDS1TJ223T	CFr	1/2W 22kohm 5%
D102	MA700AT	Diode	30V 0.03A	R201	ERDS1TJ222	CFr	1/2W 2.2kohm 5%
D103	VDAL01Z	Diode	200V 1A	R202	ERDS2TJ562	CFr	1/4W 5.6kohm 5%
	VDERA91-02			R203	ERDS2TJ821	CFr	1/4W 820ohm 5%
D201	MA649HD	Diode	200V 5A	R204	ERDS2TJ562	CFr	1/4W 5.6kohm 5%
D211	VD1SS270A	Diode	60V 0.15A	R205			
	MA166T	Diode	50V 0.1A	R206	ERDS2TJ182	CFr	1/4W 1.8kohm 5%
D221	VDERA91-02	Diode	200V 1.0A	R207	ERDS2TJ102	CFr	1/4W 1.0kohm 5%
	VDAL01Z			R211	ERDS2TJ223	CFr	1/4W 22kohm 5%
D222	VDERA91-02	Diode	200V 1.0A	R212	ERDS1TJ820	CFr	1/2W 82ohm 5%
	VDAL01Z			R213	ERDS2TJ182	CFr	1/4W 1.8kohm 5%
D223	VDD3S4MG1	Diode	40V 3A	R214	ERDS2TJ272	CFr	1/4W 2.7kohm 5%
	VDSB340G1			R221	ERG1SJU681	MOFr	1W 680ohm
F101	HU315BE	Cartridge Fuse		R223	ERDS2TJ152	CFr	1/4W 1.5kohm 5%
L101	AY16U183W0R8	Line Choke		R224	ERDS2TJ102	CFr	1/4W 1.0kohm 5%
L102	AY10U302W1R0	Line Choke		R226	ERDS2TJ222	CFr	1/4W 2.2kohm 5%
L103	EXCELDLR35V	Ferrite Bead Inductor		T101	ETB28KA706A	Switching Transformer	
L104	EXCELDLR35V	Ferrite Bead Inductor		T201	ETB19KA12A	Transformer	
L211	EXCELSA35T	Ferrite Bead Inductor		TH101	ATNTH13D120T	Termistor	2.2W 8ohm
L221	AY31005	Choke		TH221	PTH9M04BC471	Posistor	
MC101	ML32E1	Control Module					

Power Supply Unit : 200V Version (ETX-998D8E)(2/2)

Ref. No.	Part No.	Part Name	Description
VR101	AVVG067LP54	Vr	0.2W 50kohm
	AVZ67TLP54	Vr	0.1W 50kohm
	EVM48GA00B54	Vr	0.3W 50kohm
VR201	AVVG067LP23	Vr	
	AVZ67TLP23		
	EVM48GA00B23		
Z101	ERZC10DK431U	Varistor	
	ATENC431D10T		
Z102	ERZC10DK681U	Varistor	
	ATENC681D10T		
Z103	ERZC10DK182U	Varistor	
	ATENC182D14F		
ZD101	MA4068HTA	Zener Diode	
ZD201	MA4062MT	Zener Diode	
ZD211	VZRD18JSB2	Zener Diode	
ZD221	VZRD51JSB2	Zener Diode	



T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	PSU (1/3) 200V:DZZSP24167 200V:DZZSP24172



Primary. ↔ Secondary.

T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	PSU (2/3) 200V:DZZS P24167 200V:DZZS P24172

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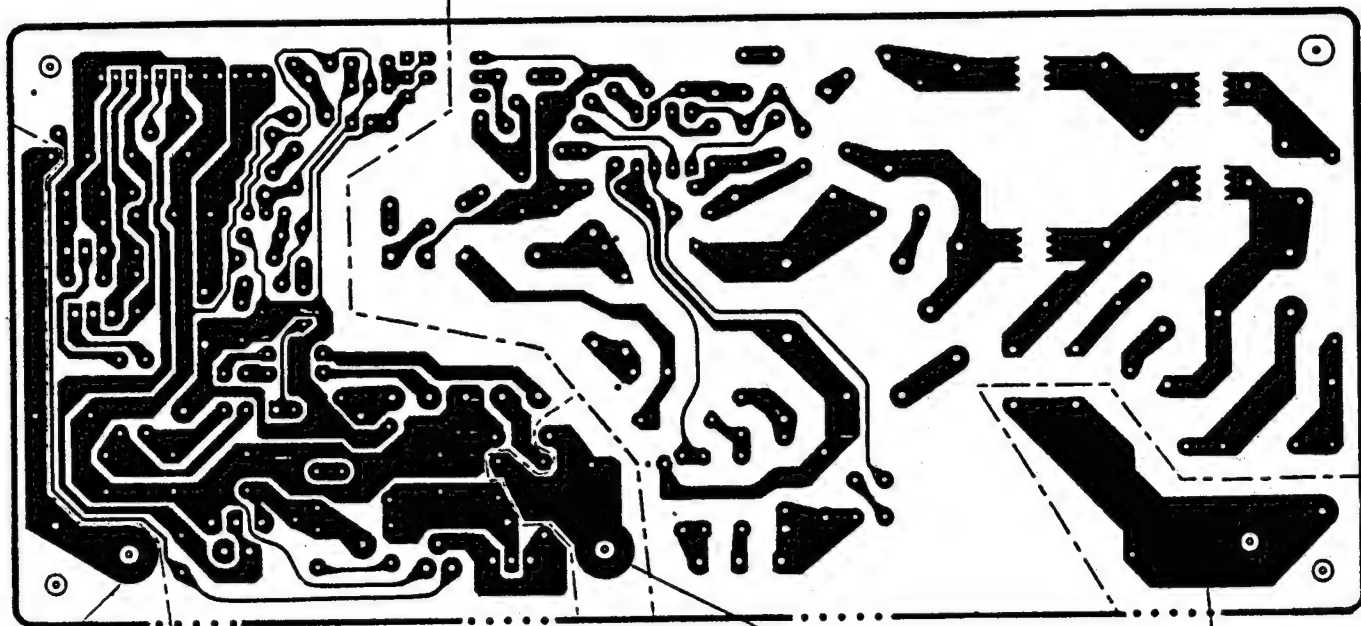
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Soldering side

Secondary runs. ← → Primary runs.



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Grounding runs.

Grounding runs.

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T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	PSU (3/3) 200V:DZZSP24167 200V:DZZSP24172

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7.7.3 Power Supply Unit : 200V Version (DZZSP24167)(1/2)

Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
C1	XA224	PFc	AC250V 0.22uF	F1	ES3-2500	Fuse	AC250V 2.5A
C2	XA104	PFc	AC250V 0.1uF	FB1	BL01RN1A63T6	Ferite Beads	
C3	No3370755	PFc	AC400/200/125V 2200PF	FB2	SHORT		
C4	No3370755	PFc	AC400/250/125V 2200PF	FB51	FBA03VB450	Ferite Beads	
C5	No3611981	Ec	400V 68uF	FB52	SHORT		
C6	No3481336	Cc	2KV 100PF	L1	TLF12UB601W2R0	Reactor	
C8	MMH103K630	PFc	630V 0.01uF	L2	HL28-473	Reactor	
C9	ECA1JFG470B	Ec	63V 47uF	L51	No3336999	Reactor	
C10	ECQB1H222KF3	PFc	50V 0.0022uF	NR1	ERZC10DK431U	Surge Absorber	430V
C11	No3480887	PFc	50V 0.1uF	NR2	OPEN		
C12	No3481050	PFc	50V 390PF	PC1	PS2652	Photo Coupler	
C13	No3480887	PFc	50V 0.1uF		TLP634		
C14	No3481212	PFc	50V 0.1uF		PC111		
C15	No3370755	PFc	AC400/250/125V 2200PF	Q1	2SK1082	FET	900V 6A
C51	No3010384	PFc	1KV 2200PF	Q51	2SC1815	Transistor	50V 0.15A
C52	No3515516	PFc	1KV 1000PF	R1	No3415171	Cr	1/4W 680kohm 5%
C53	No3506940	Ec	35V 1000uF	R2	No3562328	MOFr	2W 68kohm 5%
C54	No3480836	Ec	35V 180uF	R3	No3563863	MOFr	3W 33kohm 5%
C55	ECA1VFG471BQ	Ec	35V 470uF	R4	No3563367	MOFr	2W 330ohm 5%
C56	No3480836	Ec	35V 180uF	R5	No3252450	MOFr	1W 330kohm 5%
C57	No3572773	Ec	35V 1000uF	R7	No3415821	Cr	1/4W 33kohm 5%
C58	No3626962	Ec	25V 47uF	R8	No3415457	Cr	1/4W 150ohm 5%
C59	No3626962	Ec	25V 47uF	R9	No3476235	CEr	2W 0.22ohm 5%
C60	No3626962	Ec	25V 47uF	R10	No3562441	MOFr	1/2W 15ohm 5%
C61	MMC104K250	PFc	250V 0.1uF	R11	No3415651	Cr	1/4W 4.7kohm 5%
C62	No3559750	PFc	AC250V 10000PF	R12	No3415686	Cr	1/4W 5.1kohm
C63	OPEN			R13	No3481255	MOFr	1/2W 6.8ohm 5%
C64	MMC104K250	PFc	250V 0.1uF	R14	No3372588	Cr	1/4W 100ohm 5%
CN30	B12BPHKS	Connector		R51	No3563006	MOFr	1W 1kohm 5%
CN31	B2P3VH	Connector		R52	No3415678	Cr	1/4W 5.6kohm 5%
CX1	No3480887	PFc	50V 0.1uF	R53	No3415570	Cr	1/4W 1kohm 5%
CX51	ECQB1H473KF3	PFc	50V 0.047uF	R54	No3415678	Cr	1/4W 5.6kohm 5%
CX52	ECQB1H102KF3	PFc	50V 0.001uF	R55	No3415651	Cr	1/4W 4.7kohm 5%
D1	S5688JTPA3	Diode	600V 1A	R56	No3415597	Cr	1/4W 1.5kohm 5%
D2	RU1PLFD1K	Diode	1000V 0.4A	R57	OPEN		
D3	AP01CV0	Diode	1000V 0.2A	R58	No3415597	Cr	1/4W 1.5kohm 5%
D4	1SS119-14	Diode	35V 0.15A	R59	No3415597	Cr	1/4W 1.5kohm 5%
D5	RD16ESB2 HZS16Z	Zener Diode	20V 0.4W	R60	No3415597	Cr	1/4W 1.5kohm 5%
D6	AL01ZV0	Diode	200V 1A	R61	No3415554	Cr	1/4W 680ohm 5%
D7	AK03V0	Diode	30V 1A	R62	No3415554	Cr	1/4W 680ohm 5%
D51	AG01V0	Diode	400V 0.7A	RC1	D3SBA60	Rectifier Stack	600V 4A
D52	RK49LF015-303	Diode	90V 3.5A		D3SB60		
D53	AG01V0	Diode	400V 0.7A		RBV406		
D54	RD62ESB2	Zener Diode	6.2V 0.4W	RC51	FML22S	Rectifier Stack	200V 10A
D54	HZS62N				ESAC92M02		
D55	OPEN			RV51	No3478807	Vr	1/3W 500ohm
D56	S5688GTPA3 AM01	Diode	400V 1A	RX1	No3415449	Cr	1/4W 120ohm 5%
D57	S5688GTPA3	Diode	400V 1A	RX2	No3415430	Cr	1/4W 100ohm 5%
D57	AM01			RX3	No3415546	Cr	1/4W 560ohm 5%
				RX51	No3415821	Cr	1/4W 330kohm 5%
				RX52	No3415600	Cr	1/4W 1.8kohm 5%
				RX53	No3415899	Cr	1/4W 100kohm 5%
				SQ1	OPEN		
				T1	No3481190	Transformer	

Power Supply Unit:200V Version (DZZSP24167)(2/2)

Ref. No.	Part No.	Part Name	Description
TH1	NTH13D160LA 16D13	Thermistor	
TH51	No3479188		
Z1	FA5311P	IC	
Z51	S1-3050CA	IC	5V 1.5A
Z52	NJM79M12FA UPC79M12H UPC79M12HF	IC	12V 0.5A
Z53	NJM78M12FA UPC78M12H UPC78M12HF	IC	12V 0.5A

7.7.4 Power Supply Unit : 200V Version (DZZSP24172)(1/2)

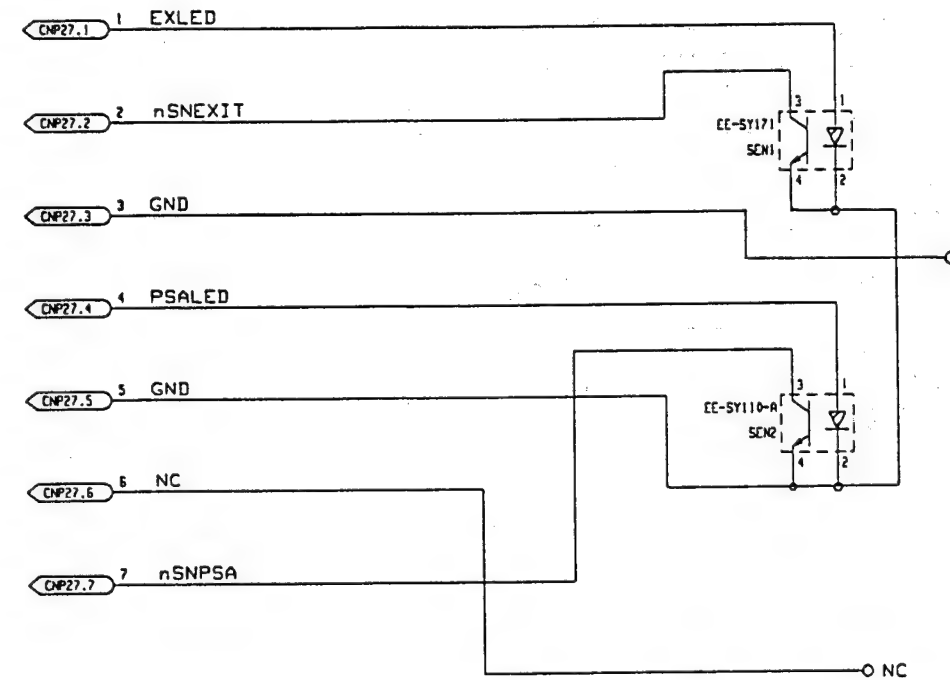
Ref. No.	Part No.	Part Name	Description	Ref. No.	Part No.	Part Name	Description
C1	XA224	PFc	AC250V 0.22uF	D57	AM01		
C2	XA104	PFc	AC250V 0.1uF	F1	ES3-2500	Fuse	AC250V 2.5A
C3	No3370755	PFc	AC400/200/125V 2200PF	FB1	BL01RN1A63T6	Ferite Beads	
C4	No3370755	PFc	AC400/250/125V 2200PF	FB2	SHORT		
C5	No3611981	Ec	400V 68uF	FB51	FBA03VB450	Ferite Beads	
C6	No3481336	Cc	2KV 100PF	FB52	SHORT		
C8	MMH103K630	PFc	630V 0.01uF	L1	TLF12UB601W2R0	Reactor	
C9	ECA1JFG470B	Ec	63V 47uF	L2	HL28-473	Reactor	
C10	ECQB1H222KF3	PFc	50V 0.0022uF	L51	No3336999	Reactor	
C11	No3480887	PFc	50V 0.1uF	NR1	ERZC10DK431U	Surge Absorber	430V
C12	No3481050	PFc	50V 390PF	NR2	ERZC10DK431U	Ceramic Varistor	
C13	No3480887	PFc	50V 0.1uF		SNR431KD10		
C14	No3481212	PFc	50V 0.1uF	PC1	PS2652	Photo Coupler	
C15	No3370755	PFc	AC400/250/125V 2200PF		TLP634		
C51	No3010384	PFc	1KV 2200PF		PC111		
C52	No3515516	PFc	1KV 1000PF	Q1	2SK1082	FET	900V 6A
C53	No3506940	Ec	35V 1000uF	Q51	2SC1815	Transistor	50V 0.15A
C54	No3480836	Ec	35V 180uF	R1	No3415171	Cr	1/4W 680kohm 5%
C55	ECA1VFG471BQ	Ec	35V 470uF	R2	No3562328	MOFr	2W 68kohm 5%
C56	No3480836	Ec	35V 180uF	R3	No3563863	MOFr	3W 33kohm 5%
C57	No3572773	Ec	35V 1000uF	R4	No3563367	MOFr	2W 330ohm 5%
C58	No3626962	Ec	25V 47uF	R5	No3252450	MOFr	1W 330kohm 5%
C59	No3626962	Ec	25V 47uF	R7	No3415821	Cr	1/4W 33kohm 5%
C60	No3626962	Ec	25V 47uF	R8	No3415457	Cr	1/4W 150ohm 5%
C61	MMC104K250	PFc	250V 0.1uF	R9	No3476235	CEr	2W 0.22ohm 5%
C62	No3559750	PFc	AC250V 10000PF	R10	No3562441	MOFr	1/2W 15ohm 5%
C63	OPEN			R11	No3415651	Cr	1/4W 4.7kohm 5%
C64	MMC104K250	PFc	250V 0.1uF	R12	No3415686	Cr	1/4W 5.1kohm 5%
CN30	B12BPHKS	Connector		R13	No3481255	MOFr	1/2W 6.8ohm 5%
CN31	B2P3VH	Connector		R14	No3372588	Cr	1/4W 100ohm 5%
CX1	No3480887	PFc	50V 0.1uF	R51	No3563006	MOFr	1W 1kohm 5%
CX51	ECQB1H473KF3	PFc	50V 0.047uF	R52	No3415678	Cr	1/4W 5.6kohm 5%
CX52	ECQB1H102KF3	PFc	50V 0.001uF	R53	No3415570	Cr	1/4W 1kohm 5%
D1	S5688JTPA3	Diode	600V 1A	R54	No3415678	Cr	1/4W 5.6kohm 5%
D2	RU1PLFD1K	Diode	1000V 0.4A	R55	No3415651	Cr	1/4W 4.7kohm 5%
D3	AP01CVO	Diode	1000V 0.2A	R56	No3415597	Cr	1/4W 1.5kohm 5%
D4	1SS119-14	Diode	35V 0.15A	R57	OPEN		
D5	RD16ESB2	Zener Diode	20V 0.4W	R58	No3415597	Cr	1/4W 1.5kohm 5%
	HZS16Z			R59	No3415597	Cr	1/4W 1.5kohm 5%
D6	AL01ZVO	Diode	200V 1A	R60	No3415597	Cr	1/4W 1.5kohm 5%
D7	AK03VO	Diode	30V 1A	R61	No3415554	Cr	1/4W 680ohm 5%
D51	AG01VO	Diode	400V 0.7A	R62	No3415554	Cr	1/4W 680ohm 5%
D52	RK49LF015-303	Diode	90V 3.5A		D3SBA60	Rectifier Stack	600V 4A
D53	AG01VO	Diode	400V 0.7A		D3SB60		
					RBV406		
D54	RD62ESB2	Zener Diode	6.2V 0.4W	RC1	FML22S	Rectifier Stack	200V 10A
	HZS62N			RC51	ESAC92M02		
D55	OPEN			RV51	No3478807	Vr	1/3W 500ohm
D56	S5688GTPA3	Diode	400V 1A	RX1	No3415449	Cr	1/4W 120ohm 5%
	AM01			RX2	No3415430	Cr	1/4W 100ohm 5%
D57	S5688GTPA3	Diode	400V 1A	RX3	No3415546	Cr	1/4W 560ohm 5%
				RX51	No3415821	Cr	1/4W 33kohm 5%
				RX52	No3415600	Cr	1/4W 1.8kohm 5%

Power Supply Unit : 200V Version (DZZSP24172)(2/2)

Ref. No.	Part No.	Part Name	Description
RX53	No3415899	Cr	1/4W 100kohm 5%
SQ1	PSA302MA	Surge Absorber	3000V,1500A
T1	No3481190	Transformer	
TH1	NTH13D160LA	Thermistor	
TH1	16D13		
TH51	No3479188		
Z1	FA5311P	IC	
Z51	S1-3050CA	IC	5V 1.5A
Z52	NJM79M12FA	IC	12V 0.5A
	UPC79M12H		
	UPC79M12HF		
Z53	NJM78M12FA	IC	12V 0.5A
	UPC78M12H		
	UPC78M12HF		

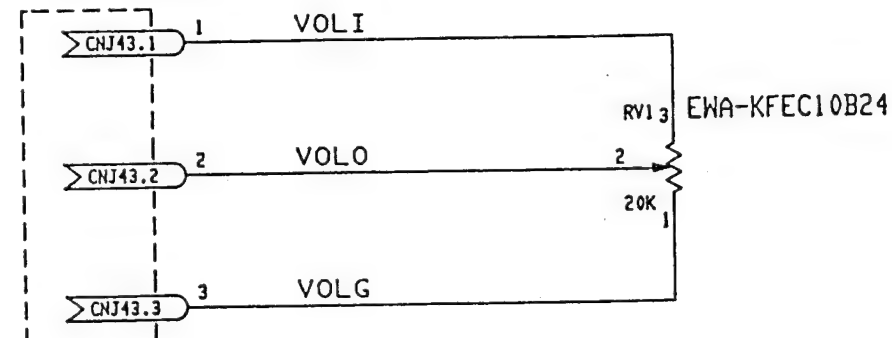
PSA Sensor

CNP27 Connect To CNJ27 SC PCB



Volume PC Board

From SC PCB

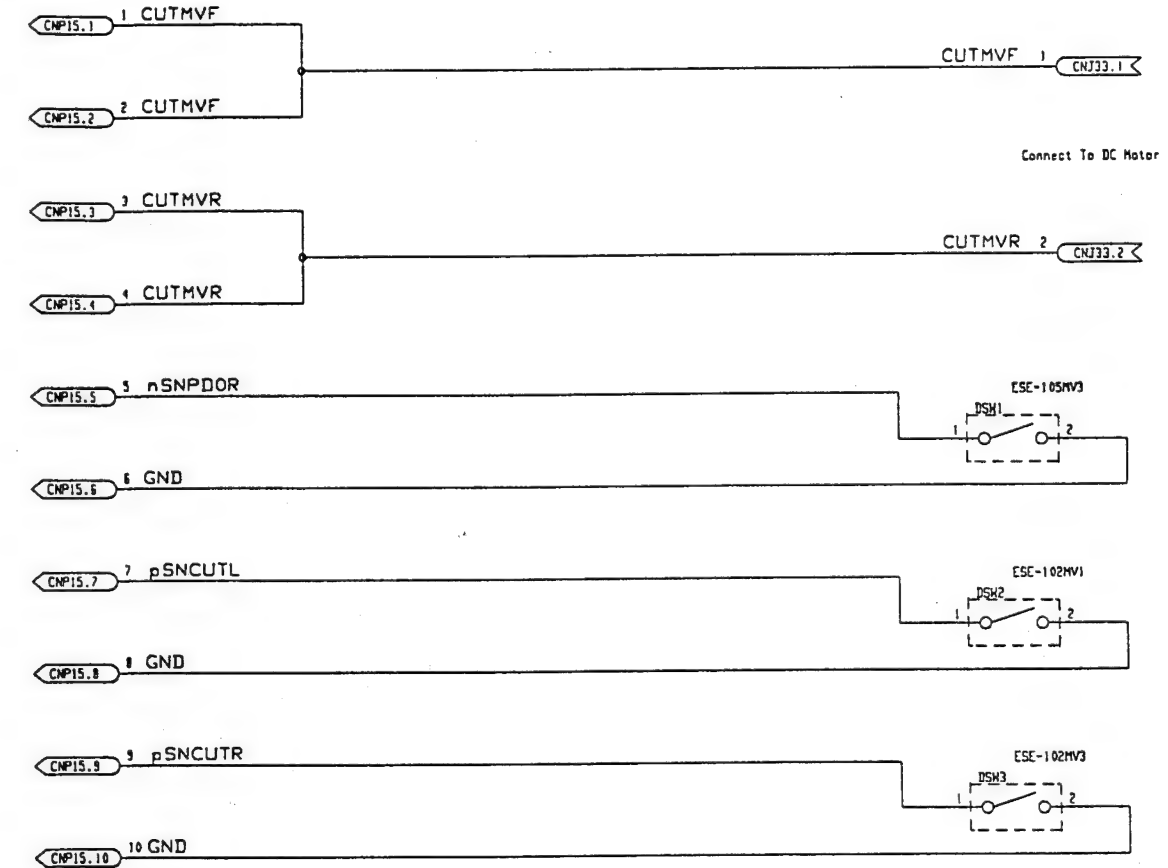


CNJ43

(Not Mounted on the VOL PCB;
directly connected
to VOL Harness.)

Cutter Sensor

CNP15 Connect To CNJ15 SC PCB



T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	PSA Sensor
T/I Number	Revision	Issue Date		Drawing Name
		31.3.1992		Cutter Sensor
T/I Number	Revision	Issue Date		Drawing Name
		31.3.1992		Volume PC Board

7.8 Sensor PC Board

PSASensor (1/1)

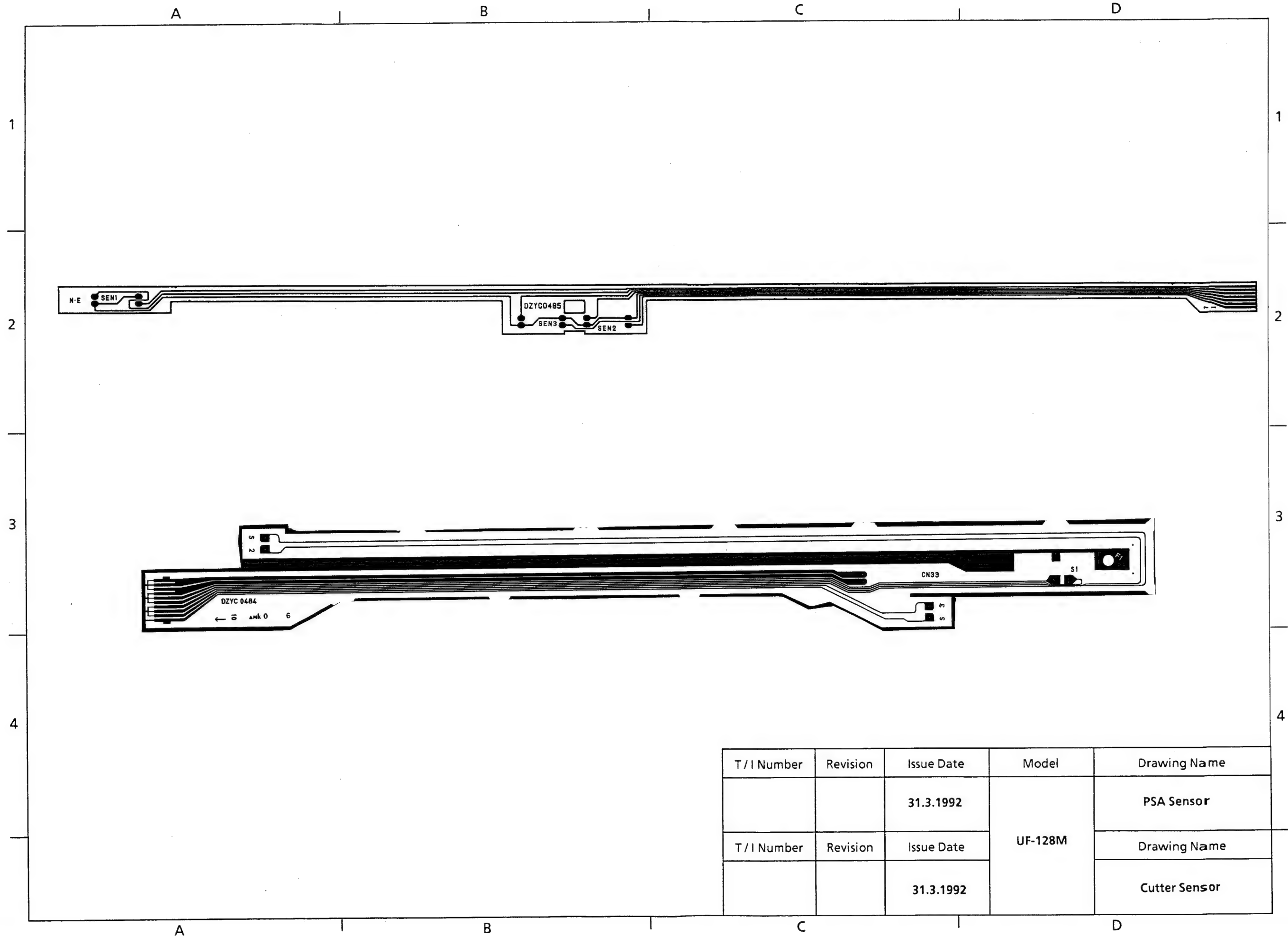
Ref. No.	Part No.	Description
SEN1	EESY171	Photo Sensor
SEN2	EESY110A	Photo Sensor

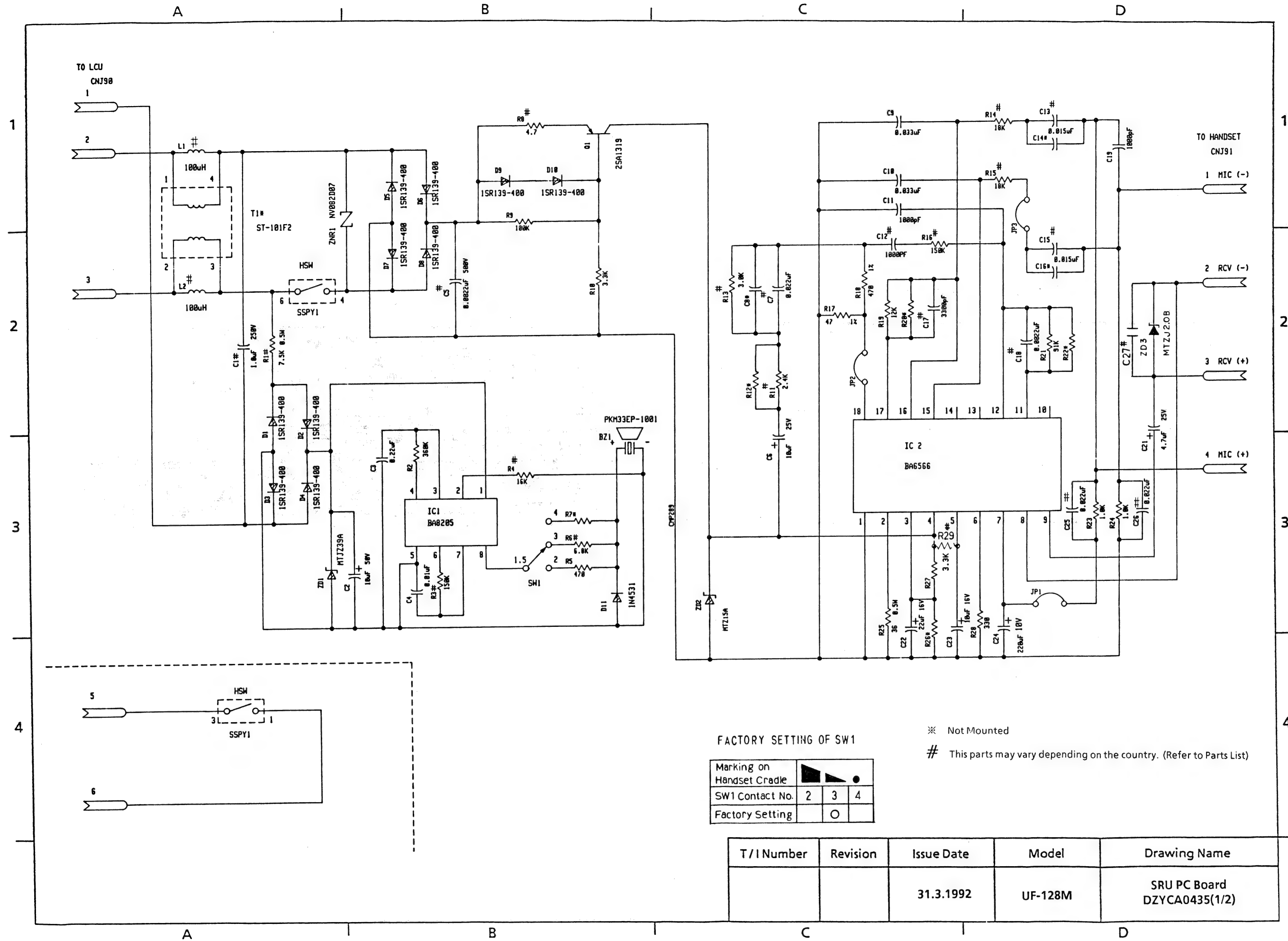
Cutter Sensor (1/1)

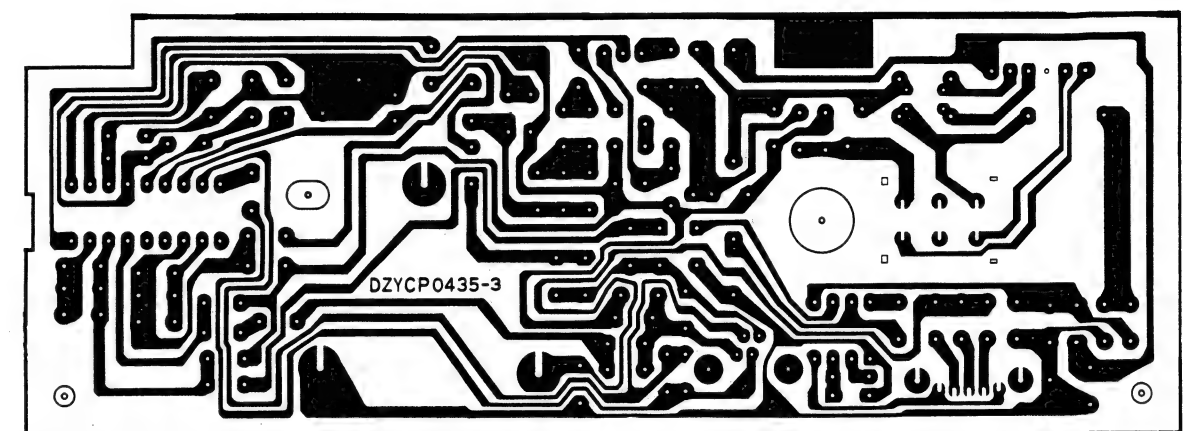
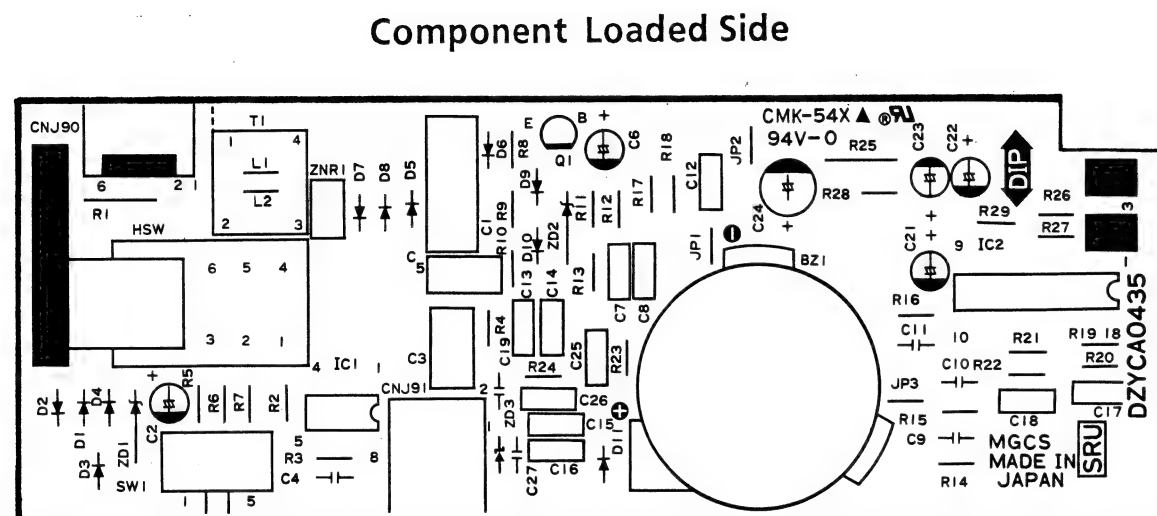
Ref. No.	Part No.	Description
DSW1	ESE105MV3	Switch
DSW2	ESE102MH1	Switch
DSW3	ESE102MH3	Switch
CNJ33	B2BPHKS	Connector

Volume PC Board (1/1)

Ref. No.	Part No.	Description
RV1	EWAKDEC10B24	Volume Monitor
CNJ43		Not Mounted







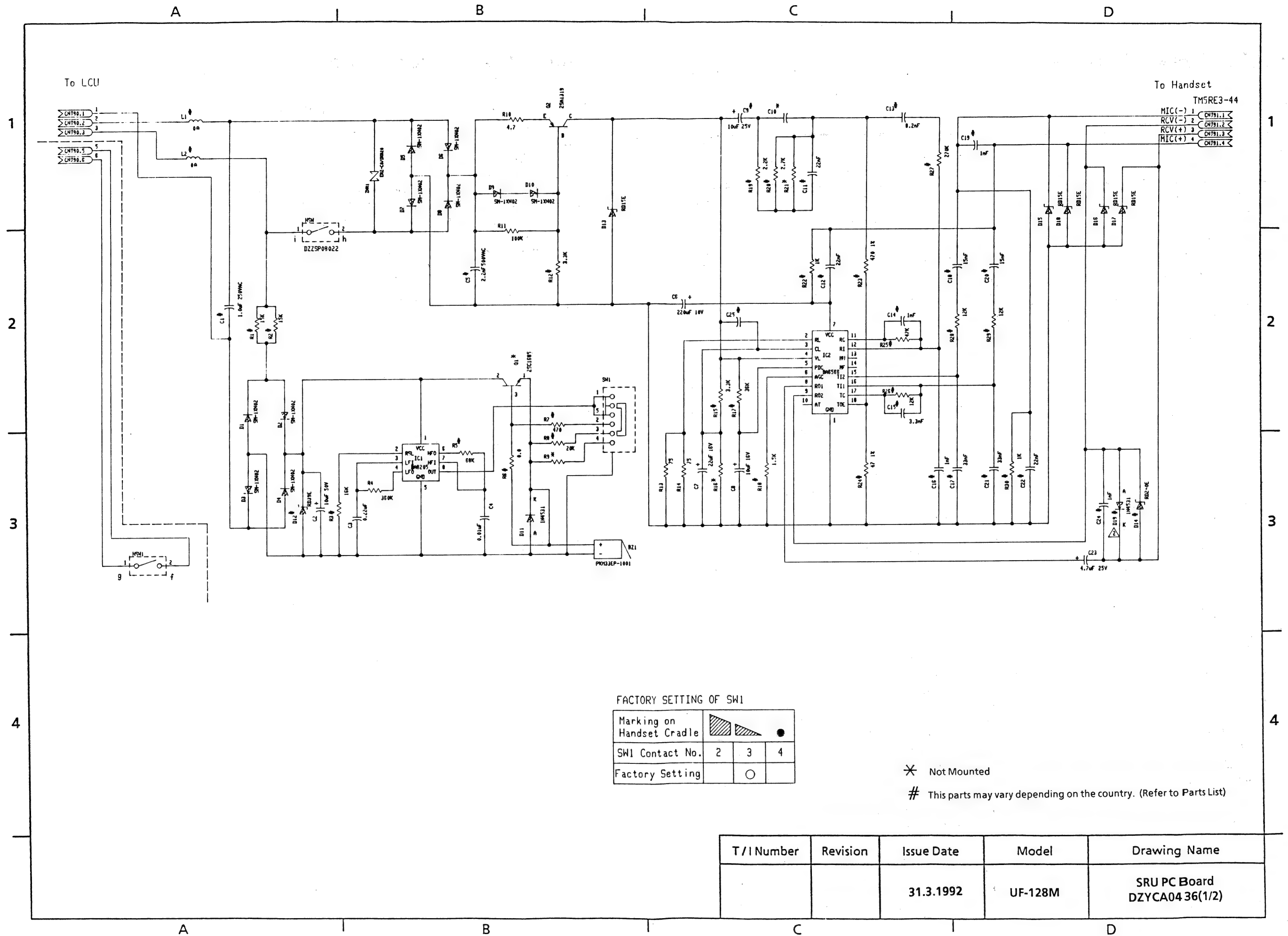
T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	SRU PC Board DZYCA04 35(2/2)

7.9.1 SRU PC Board (DZYCA0435)(1/2)

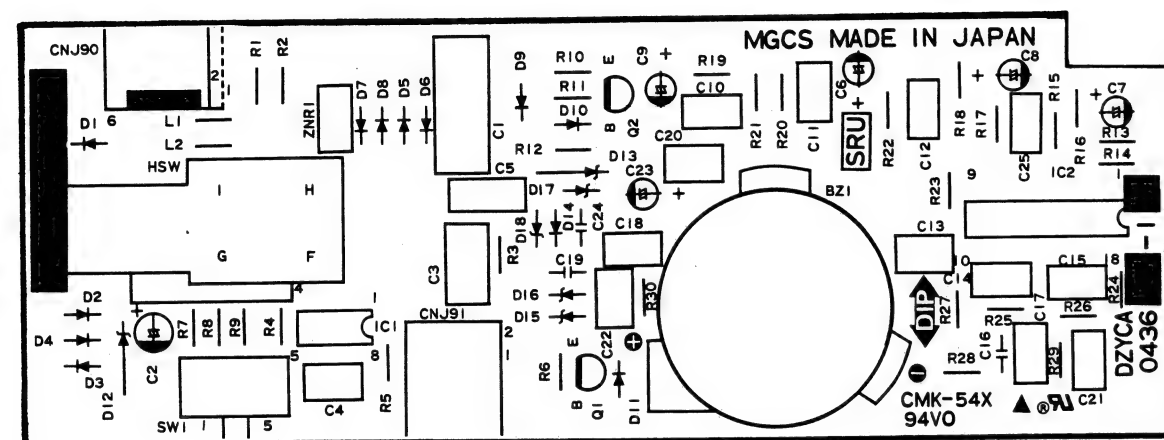
Country Code		U	Taiwan , Portugal, Turkey, Barclay, Bahrain, Chile, Cyprus. Egypt, Fiji , Jordan, Kuwait, Lebanon, Oman, Pakistan, Saudi Arabia, The Philippines, UAE, USSR, Greece, Thailand, South Africa, Brazil, Colombia, Ecuador, Guam , Mexico. Panama ,Venezuela								
		YX	Singapore, Indonesia								
Ref. No.	Part No.	Part Name	Description	DZYCA 0435**		Ref. No.	Part No.	Part Name	Description	DZYCA 0435**	
				U	YX					U	YX
BZ1	PKM33EP1001	Buzzer		1	1	D6	SM1XN02	Diode		1	1
C1	ECQE2105KF	PFc	1uF,250V	1	1	D7	1SR139-400	Diode		1	1
C2	ECEA1HKA100B	Ec	10uF,50VDC	1	1		SM1XN02				
C3	ECQB1H224KF	PFc	0.22uF,50VDC	1	1	D8	1SR139-400	Diode		1	1
	ECQB1H224JF						SM1XN02				
	C4					ECQV1H224JZ	PFc	0.01uF,50VDC	1	1	D9
ECQB1H103JF		SM1XN02									
C5		ECQV1H103JL	Cc	2200pF,500V	1	1					D10
	ECKD2H222KB5	SM1XN02									
C6	ECEA1EKA100B	Ec	10uF,25VDC	1	1	D11	1N4531	Diode		1	1
C7	ECQB1H223JF	PFc	2200pF,50VDC	1	1		MA178				
C8*	(Not mounted)					HSW	SPPY1	Hook Switch		1	1
C9	ECQB1H333JF	PFc	0.033uF,50VDC	1	1	IC1	BA8205	IC,Ringer		1	1
	ECQV1H333JZ					IC2	BA6566	IC,Speech		1	1
C10	ECQB1H333JF	PFc	0.033uF,50VDC	1	1	JP1	ERDS2T0T	Cfr	0ohm	1	1
	ECQV1H333JZ					JP2	ERDS2T0T	Cfr	0ohm	1	1
C11	ECBT1H102KB	Cc	1000pF,50VDC	1	1	JP3	ERDS2T0T	Cfr	0ohm	1	1
C12	ECQB1H102JF	PFc		1		L1	ELEXT101KA	Inductor	100uH	1	1
C12	ECQB1H182JF	PFc			1	L2	ELEXT101KA	Inductor	100uH	1	1
C13	ECQB1H153JF	PFc		1		Q1	2SA1319	Transistor		1	1
C13	ECQB1H333JF	PFc			1	R1	ERDS1TJ752	Cfr	7.5Kkohm,1/2W	1	1
C14	(Not mounted)				1	R2	ERDS2TJ364	Cfr	360kohm,1/4W,5%	1	1
C15	ECQB1H153JF	PFc		1		R3	ERDS2TJ683	Cfr	68kohm,1/4W		1
C15	ECQB1H333JF	PFc			1	R3	ERDS2TJ154	Cfr	150kohm,1/4W	1	
C16	(Not mounted)					R4	ERDS2TJ163	Cfr	16kohm,1/4W	1	1
C17	ECQB1H332JF	PFc		1		R5	ERDS2TJ471	Cfr	470ohm,1/4W,5%	1	1
C17	ECQB1H682JF	PFc			1	R6	ERDS2TJ682	Cfr	6.8kohm,1/4W	1	
C18	ECQB1H222JF	PFc	2200uF,50VDC	1	1	R6	ERDS2TJ203	Cfr	20kohm,1/4W		1
C19	ECBT1H102KB	Cc	1000pF,50VDC	1	1	R7*	(Not mounted)				
C21	ECEA1EKA4R7B	Ec	4.7uF,25VDC	1	1	R8	ERDS2TJ4R7	Cfr		1	
C22	ECEA1CKA220B	Ec	22uF,16VDC	1	1	R8	ERDS2TJ3R9	Cfr			1
C23	ECEA1CKA100B	Ec	10uF,16VDC	1	1	R9	ERDS2TJ104	Cfr	100kohm,1/4W,5%	1	1
C24	ECEA1AKS221E	Ec	220uF,10VDC	1	1	R10	ERDS2TJ332	Cfr	3.3kohm,1/4W,5%	1	1
C25	ECQB1H223JF	PFc	0.022uF50V	1	1	R11	ERDS2TJ242	Cfr	2.4kohm,1/4W	1	
C26	ECQB1H223JF	PFc	0.022uF,50V	1	1	R11	ERDS2TJ222	Cfr	2.2kohm,1/4W		1
CNJ90	DF1B5P25DS	Connector		1	1	R12	(Not mounted)				
CNJ91	TM5RE3-44(50)	Modular		1	1	R13	ERDS2TJ302	Cfr	3kohm,1/4W	1	
D1	1SR139-400	Diode		1	1	R13	ERDS2TJ272	Cfr	2.7kohm,1/4W		1
	SM1XN02					R14	ERDS2TJ183	Cfr		1	
D2	1SR139-400	Diode		1	1	R14	ERDS2TJ332	Cfr			1
	SM1XM02					R15	ERDS2TJ183	Cfr		1	
D3	1SR139-400	Diode		1	1	R15	ERDS2TJ332	Cfr			1
	SM1XN02					R16	ERDS2TJ154	Cfr		1	
D4	1SR139-400	Diode		1	1	R16	ERDS2TJ124	Cfr			1
	SM1XN02					R17	EROS2TKF47R0	MFr	47ohm,1/4W,1%	1	1
D5	1SR139-400	Diode		1	1	R18	EROS2TKF4700	MFr	470ohm,1/4W,1%	1	1
	SM1XN02					R19	ERDS2TJ123	Cfr	12kohm,1/4W,5%	1	1
D6	1SR139-400	Diode		1	1						

SRU PC Board (DZYCA0435) (2/2)

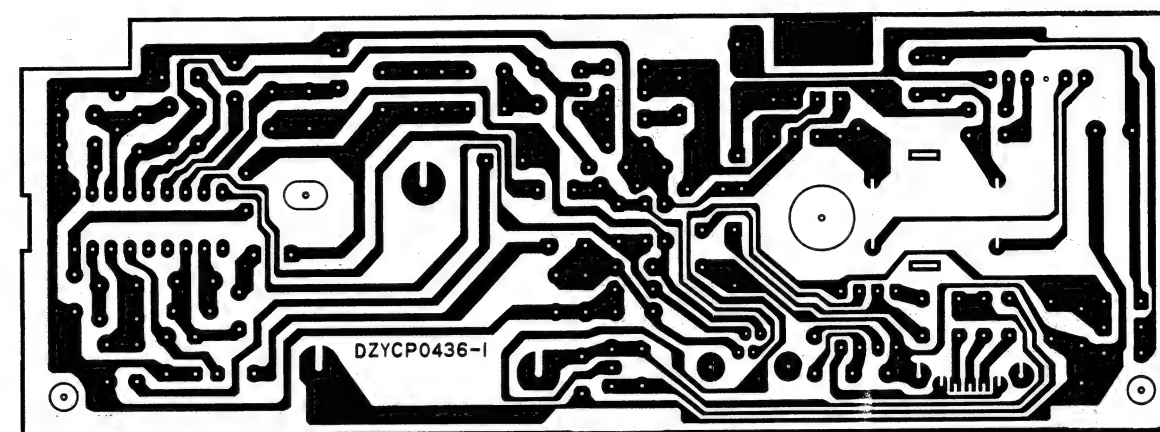
Ref. No.	Part No.	Part Name	Description	DZYCA 0435**	
				U	YX
R20	(Not mounted)				
R21	ERDS2TJ913	Cfr	91kohm,1/4W,5%	1	1
R22	(Not mounted)				
R23	ERDS2TJ102	Cfr	1.0kohm,1/4W,5%	1	1
R24	ERDS2TJ102	Cfr	1.0kohm,1/4W,5%	1	1
R25	ERDS1TJ360	Cfr	36ohm,1/2W,5%	1	1
R26	(Not mounted)				
R27	ERDS2TJ332	Cfr	3.3kohm,1/4W,5%	1	1
R28	ERDS2TJ331	Cfr	330ohm,1/4W,5%	1	1
SW1	SSSF113L9	Slide Switch		1	1
T1*	(Not mounted)				
ZD1	MTZJ39A	Zener Diode		1	1
	RD36EB				
ZD2	MTZ15A	Zener Diode		1	1
	RD15EB1				
ZD3	MTZJ20B	Zener Diode		1	1
ZNR1	NV082D07	Sarge Absorber		1	1
	ERZC07DK820				
	AVRG07D820K				



Component Loaded Side



Soldering Side



T/I Number	Revision	Issue Date	Model	Drawing Name
		31.3.1992	UF-128M	SRU PC Board DZYCA0436(2/2)

7.9.2 SRU PC Board (DZYCA0436)(1/3)

Country Code	F	Finland	Country Code	R	Belgium							
	H	The Netherlands		A	Austria							
	K	Hong Kong		Q	Ireland							
	L	Australia		W	New Zealand							
	M	Switzerland										
Ref. No.	Part No .	Part Name	Description									
				F	H	K	L	M	R	A	Q	W
BZ1	PKM33EP1001	Buzzer			1	1	1	1	1	1	1	1
C1	ECQE2105KF	PFc	1uF 250VDC 10%		1	1	1	1	1	1	1	
C2	ECFA1HKA100B	Ec	10uF 50VDC 20%		1	1	1	1	1	1	1	1
C3	ECQB1H224KF	PFc	0.22uF 50VDC 10%		1	1	1	1	1	1	1	1
	ECQB1H224JF											
	ECQV1H224JZ											
C4	ECQB1H103JF	PFc	0.01uF 50VDC 5%		1	1	1	1	1	1	1	1
	ECQV1H103JL											
C5	ECKD2H222KB5	Cc	2200pF 500VDC 10%		1	1		1	1	1	1	1
C5	ECQE2103KF	Cc	0.01uF 250VDC 10%				1		1	1	1	1
C6	ECFA1AKS221F	Ec	220uF 10VDC 20%		1	1	1	1	1	1	1	1
C7	ECFA1CKA220B	Ec	22uF 16VDC 20%		1	1	1	1	1	1	1	1
C8	ECFA1CKA100B	Ec	10uF 16VDC 20%		1	1	1	1	1	1	1	1
C9	ECFA1EKA100B	Ec	10uF 25VDC 20%		1	1	1	1	1	1	1	1
C10	ECQB1H472JF	PFc	4700pF 50V				1					
C10	ECQB1H122JF	PFc	1200pF 50V						1			
C11	ECQB1H223JF	PFc	0.022uF 50VDC 5%		1	1	1				1	
C11	ECQB1H273JF	PFc	0.027uF 50VDC 5%					1	1			
C11	ECQB1H183JF	PFc	0.018uF 50VDC							1		
C11	EXQB1H333JF	PFc	0.033uF 50VDC									1
C12	ECQB1H223JF	PFc	0.022uF 50VDC 5%		1	1	1	1	1	1	1	1
C13	ECQB1H332JF	PFc	3300pF 50VDC 5%				1					
C13	ECQB1H822JF	PFc	8200pF 50VDC 5%		1	1		1	1		1	1
C13	ECQB1H333JF	PFc	0.033uF 50VDC							1		
C14	ECQB1H102JF	PFc	1000pF 50V		1	1	1	1			1	1
C14	ECQB1H222JF	PFc	2200pF 50V						1			
C14	ECQB1H332JF	PFc	3300pF 50V							1		
C15	ECQB1H102JF	PFc	1000pF 50VDC 5%				1	1		1	1	1
C15	ECQB1H332JF	PFc	3300pF 50VDC 5%		1	1			1			
C16	ECBT1H102KB	Cc	1000pF 50VDC		1	1	1	1	1	1	1	1
C17	ECQB1H333JF	PFc	0.033uF 50VDC 5%		1	1	1	1	1	1	1	1
C18	ECQB1H103JF	PFc	0.01uF 50VDC 5%					1				
	ECQV1H103JL											
C18	ECQB1H153JF	PFc	0.015uF 50VDC 5%		1							
C18	ECQB1H223JF	PFc	0.011uF 50VDC 5%			1						
C18	ECQB1H333JF	PFc	0.033uF 50VDC				1					
C18	ECQB1H273JF	PFc	0.027uF 50VDC						1			
C19	ECBT1H102KB	Cc	1000pF 50VDC		1	1	1	1	1	1	1	1
C20	ECQB1H103JF	PFc	0.01uF 50VDC 5%					1				
	ECQV1H103JL											
C20	ECQB1H153JF	PFc	0.015uF 50VDC 5%		1							
C20	ECQB1H223JF	PFc	0.011uF 50VDC 5%			1						
C20	ECQB1H333JF	PFc	0.033uF 50VDC				1					
C20	ECQB1H273JF	PFc	0.027uF 50VDC						1			
C21	ECQB1H333JF	PFc	0.033uF 50VDC 5%		1	1	1	1	1	1	1	1
C22	ECQB1H223JF	PFc	0.022uF 50VDC 5%		1	1	1	1	1	1	1	1
C23	ECFA1EKA4R7B	Ec	4.7uF 25VDC 20%		1	1	1	1	1	1	1	1
C24	ECBT1H102KB	PFc	1000pF 50V			1		1	1		1	1
C25	ECQB1H683JF	PFc	0.068uF 50VDC 5%					1				
C25	ECQV1H124JZ	PFc	0.12uF 50VDC				1					
C25	EZQB1H563JF	PFc	0.056uF 50VDC									1
CNJ90	DF1B5P25DS23	Connector			1		1	1	1	1	1	
CNJ90	DF1B6P25DS21	Connector				1						1
CNJ91	TM5RE3-44(50)	Modular Jack			1	1	1	1	1	1	1	1
D1	SM1XN02	Diode			1	1	1	1	1	1	1	1
	1SR139-200											
D2	SM1XN02	Diode			1	1	1	1	1	1	1	1
	1SR139-200											
D3	SM1XN02	Diode			1	1	1	1	1	1	1	1
	1SR139-200											
D4	SM1XN02	Diode			1	1	1	1	1	1	1	1
	1SR139-200											
D5	SM1XN02	Diode			1	1	1	1	1	1	1	1
	1SR139-200											

SRU PC Board (DZYCA0436)(2/3)

Country Code	F	Finland	Country Code	R	Belgium							
	H	The Netherlands		A	Austria							
	K	Hong Kong		Q	Ireland							
	L	Australia		W	New Zealand							
	M	Switzerland										
Ref. No.	Part No .	Part Name	Description									
				F	H	K	L	M	R	A	Q	W
D6	SM1XN02	Diode			1	1	1	1	1	1	1	1
	1SR139-200											
D7	SM1XN02	Diode			1	1	1	1	1	1	1	1
	1SR139-200											
D8	SM1XN02	Diode			1	1	1	1	1	1	1	1
	1SR139-200											
D9	SM1XN02	Diode			1	1	1	1	1	1	1	1
	1SR139-200											
D10	SM1XN02	Diode			1	1	1	1	1	1	1	1
	1SR139-200											
D11	1N4531	Diode			1	1	1	1	1	1	1	1
	MA178											
D12	MTZJ39A	Zener Diode			1	1	1	1	1	1	1	1
	RD39EB1											
	RD39ES											
D13	MTZ15A	Zener Diode			1	1	1	1	1	1	1	1
	RD15EB1											
	RD15ESB1											
D14	MA178	Diode			1				1			
D14	MTZJ20A	Diode				1		1			1	1
	RD20ES											
D15	MTZ15A	Zener Diode			1	1	1	1	1	1	1	1
	RD15ESB1											
D16	MTZ15A	Zener Diode			1	1	1	1	1	1	1	1
	RD15ESB1											
D17	MTZ15A	Zener Diode			1	1	1	1	1	1	1	1
	RD15ESB1											
D18	MTZ15A	Zener Diode			1	1	1	1	1	1	1	1
	RD15ESB1											
D19	1N4531	Diode			1		1			1		
HSW	DZZSP08022	Hook Switch			1	1	1	1	1	1	1	1
IC1	BA8205	IC.Ringer			1	1	1	1	1	1	1	1
IC2	BA6566	IC.Speech			1	1	1	1	1	1	1	1
L1	ERDS2TOT	CfR	0ohm		1	1		1	1	1	1	1
L1	ELEH101KA	CfR	100uH				1					
L2	ERDS2TOT	CfR	0ohm		1	1		1	1	1	1	1
L2	ELEH101KA	CfR	100uH				1					
Q1	Not Mounted											
Q2	2SA1319	Transistor			1	1	1	1	1	1	1	1
R1	ERDS2TJ153	CfR	15kohm 1/4W 5%			1	1	1	1			1
R1	ERDS2TJ103	CfR	10kohm 1/4W 5%		1					1	1	
R2	ERDS2TJ153	CfR	15kohm 1/4W 5%		1	1	1	1	1			1
R2	ERDS2TJ103	CfR	10kohm 1/4W 5%		1					1	1	
R3	ERDS2TJ163	CfR	16kohm 1/4W 5%		1	1		1	1	1	1	1
R3	ERDS2TJ113	CfR	11kohm 1/4W 5%				1					
R4	ERDS2TJ364	CfR	360kohm 1/4W 5%		1	1	1	1	1	1	1	1
R5	ERDS2TJ683	CfR	68kohm 1/4W 5%		1	1	1	1	1	1	1	1
R6	ERDS2TOT	Cr	0ohm		1	1	1	1	1	1	1	1
R7	ERDS2TJ471	CfR	470ohm 1/4W 5%		1	1	1	1	1	1	1	1
R8	ERDS2TJ203	CfR	20kohm 1/4W 5%		1	1	1	1	1	1	1	1
R10	ERDS2TJ3R3	CfR	3.3ohm 1/4W 5%				1					
R10	ERDS2TJ4R7	CfR	4.7ohm 1/4W 5%		1	1		1	1	1	1	1
R11	ERDS2TJ104	CfR	100kohm 1/4W/5%		1	1	1	1	1	1	1	1
R12	ERDS2TJ332	CfR	3.3kohm 1/4W 5%		1	1	1	1	1	1	1	1
R13	ERDS2TJ750	CfR	75ohm 1/4W 5%		1	1	1	1	1	1	1	1
R14	ERDS2TJ750	CfR	75ohm 1/4W 5%		1	1	1	1	1	1	1	1
R15	ERDS2TJ332	CfR	3.3kohm 1/4W 5%		1	1			1	1	1	
R15	ERDS2TJ621	CfR	620ohm 1/4W 5%									1
R17	ERDS2TJ363	CfR	36kohm 1/4W 5%		1	1	1		1	1	1	
R18	ERDS2TJ331	CfR	330ohm 1/4W 5%				1				1	
R18	ERDS2TJ152	CfR	1.5kohm 1/4W 5%		1	1		1	1	1		
R18	ERDS2TJ752	Cr	7.5kohm 1/4W 5%									1
R19	ERDS2TJ202	CfR	2.0kohm 1/4W 5%					1	1			
R19	ERDS2TJ222	CfR	2.2kohm 1/4W 5%		1	1				1	1	
R19	ERDS2TJ132	CfR	1.3kohm 1/4W 5%				1					

SRU PC Board (DZYCA0436)(3/3)

Country Code		F	Finland	Country Code	R	Belgium							
		H	The Netherlands		A	Austria							
		K	Hong Kong		Q	Ireland							
		L	Australia		W	New Zealand							
		M	Switzerland										
Ref. No.	Part No .	Part Name	Description										
				F	H	K	L	M	R	A	Q	W	
R19	ERDS2TJ182	CFr	1.8kohm 1/4W 5%										1
R20	ERDS2TJ222	CFr	2.2kohm 1/4W 5%			1					1	1	
R20	ERDS2TJ272	CFr	2.7kohm 1/4W 5%		1								
R20	ERDS2TJ332	CFr	3.3kohm 1/4W 5%					1					
R20	ERDS2TJ472	CFr	4.7kohm 1/4W 5%				1						
R20	ERDS2TJ302	CFr	3kohm 1/4W 5%						1				
R20	ERDS2TJ512	CFr	5.1kohm 1/4W 5%							1			
R23	EROS2TKF4700	Cr	470ohm 1/4W 5%		1	1		1	1	1	1	1	1
R23	EROS2TKF1501	Cr	1.5kohm 1/4W 5%				1						
R24	EROS2TKF47B0	Cr	47ohm 1/4W 5%		1	1		1	1	1	1	1	1
R24	EROS2TKF1500	Cr	150ohm 1/4W 5%				1						
R25	ERDS2TJ473	CFr	47kohm 1/4W 5%		1	1	1	1	1	1	1	1	1
R26	ERDS2TJ123	CFr	12kohm 1/4W 5%		1	1		1	1	1	1	1	1
R26	ERDS2TJ183	CFr	18kohm 1/4W 5%				1						
R27	ERDS2TJ274	CFr	270kohm 1/4W 5%		1	1							
R27	ERDS2TJ334	CFr	330kohm 1/4W 5%					1					
R27	ERDS2TJ564	CFr	560kohm 1/4W 5%				1						
R27	ERDS2TJ244	CFr	240kohm 1/4W 5%						1				
R27	ERDS2TJ184	CFr	180kohm 1/4W 5%							1			
R27	ERDS2TJ224	CFr	220kohm 1/4W 5%									1	
R27	ERDS2TJ364	CFr	360kohm 1/4W 5%										1
R28	ERDS2TJ752	CFr	7.5kohm 1/4W 5%			1							
R28	ERDS2TJ103	CFr	10kohm 1/4W 5%										1
R28	ERDS2TJ123	CFr	12kohm 1/4W 5%		1								
R28	ERDS2TJ223	CFr	22kohm 1/4W 5%					1					
R28	ERDS2TJ102	CFr	1kohm 1/4W 5%				1						
R28	ERDS2TJ153	CFr	15kohm 1/4W 5%						1				
R29	ERDS2TJ752	CFr	7.5kohm 1/4W 5%			1							
R29	ERDS2TJ103	CFr	10kohm 1/4W 5%										1
R29	ERDS2TJ123	CFr	12kohm 1/4W 5%		1								
R29	ERDS2TJ223	CFr	22kohm 1/4W 5%					1					
R29	ERDS2TJ102	CFr	1kohm 1/4W 5%				1						
R29	ERDS2TJ153	CFr	15kohm 1/4W 5%						1				
R30	ERDS2TJ102	CFr	1kohm 1/4W 5%		1	1	1	1	1	1	1	1	1
SW1	SSSF113L9	Slide Switch			1	1	1	1	1	1	1	1	1
ZNR1	NV082D07	Surge Absorber											
	ERZC07DK820			1	1	1	1	1	1	1	1		
	AVRG07D820K												

----- **Note** -----

Chapter 8

Exploded View & Parts List

8.1	Overall Exploded View	8 - 2
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8.4	Packing & Accessories	8 - 15

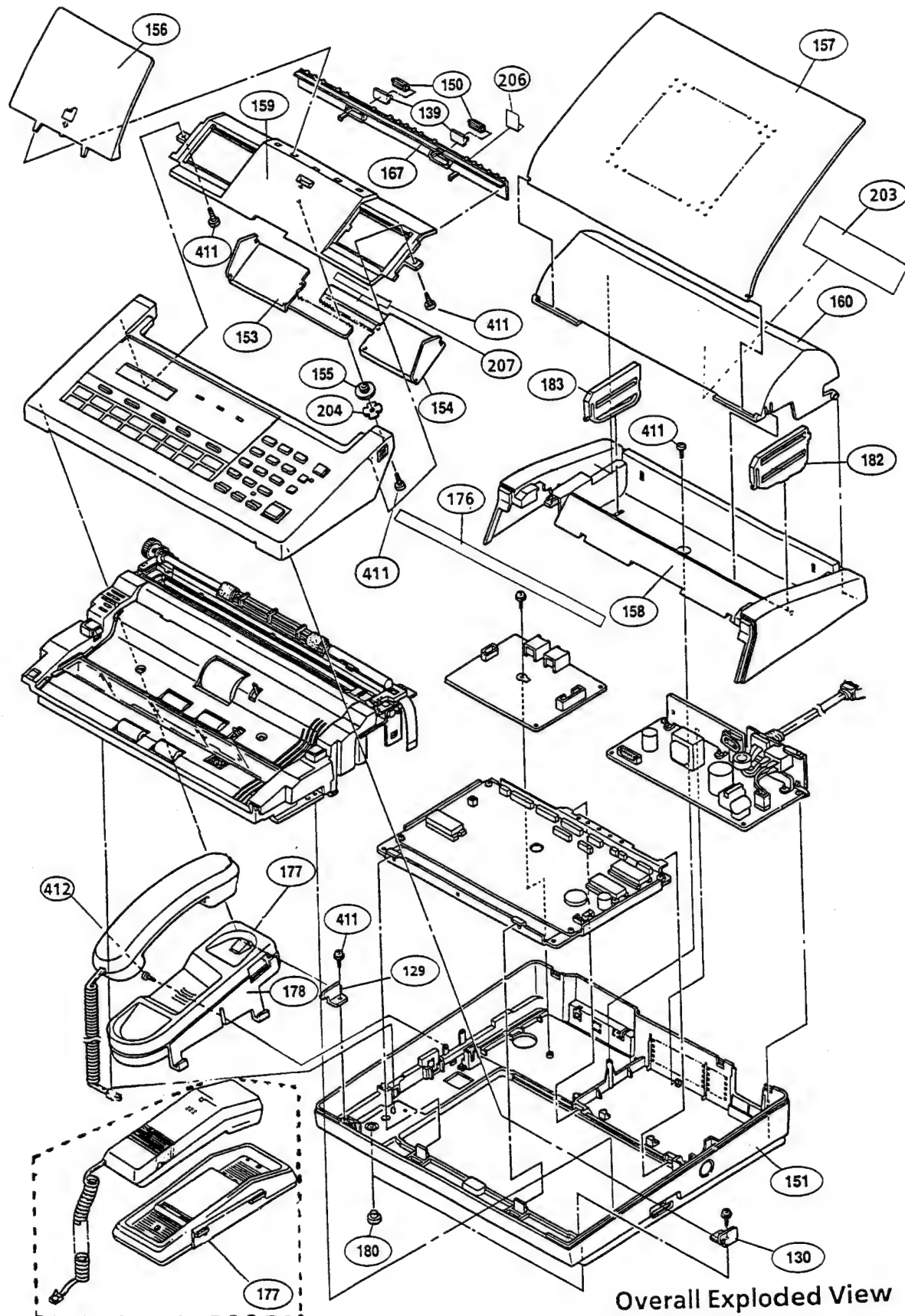
No.	Country Cord	Country	No.	Country Cord	Country
1	AA	Austria	18	YB	Barclay
2	AB	UK	19	YC	CIS,Czechoslovakia, Poland, Hungary, Kuwait, Pakistan, Saudi Arabia, Fiji, Bahrain, The Philippines, Lebanon, Egypt, Oman, UAE, Jordan, Cyprus,Chile, Argentina, Bolivia
3	AD	Denmark			
4	AE	Taiwan			
5	AF	Finland			
6	AH	The Netherlands			
7	AJ	Spain			
8	AK	Hong Kong			
9	AL	Australia	20	YG	Greece
10	AM	Switzerland	21	YM	Malaysia
11	AN	Norway	21	YT	Thailand
12	AP	Portugal	23	YV	China
13	AQ	Ireland	24	YW	South Africa
14	AR	Belgium	25	YX	Indonesia, Singapore
15	AS	Sweden	26	YZ	Peru,India, Iraq, Kenya, Sri Lanka, Yugoslavia, Ivory Coast
16	AT	Turkey			
17	AW	New Zealand			

8.1 Overall Exploded View (1/1)

Ref.No.	Part No.	Part Name	AA	AB	AD	AE	AF	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AW	YB	YC	YG	YM	YT	YV	YW	YX	YZ	Location
129	DZBAV1204L	Latch Hook,L	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3C
130	DZBAV1204R	Latch Hook,R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7A
139	DZBAV1157	Pinch Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4J
150	DZBAE1303	Pinch Roller	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4J
151	DZBAV8601	Base Cover	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7B
153	DZBAV8604L	Guide,Document,L	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3H
154	DZBAV8604R	Guide,Document,R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4H
155	DZBAT8605	Feed Gear D14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4H
156	DZBAV8606	Tray,Document	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2J
157	DZBAV8607	Tray,Recording Paper	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8J
158	DZBAV8608	Rear Cover	1			1	1	1		1	1	1		1	1	1		1	1	1	1	1	1	1		1	1	1	6F
158	DZBAV8608A	Rear Cover		1	1				1					1			1								1			1	6F
159	DZBAV8609	Tray,Sub	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3I
160	DZBAV8610	Recording Paper Cover	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8H
167	DZBAV8613	Guide Cover	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4J
176	DZBAV8911AU	Instruction Label																			1								5G
176	DZBAV8911AG	Instruction Label	1																										5G
176	DZBAV8911AJ	Instruction Label							1					1															5G
176	DZBAV8911AF	Instruction Label					1										1												5G
176	DZBAV8911AN	Instruction Label			1								1																5G
177	DZBAT8616	Handset Cradle(Upper)	1	1		1	1	1		1	1	1		1	1	1		1	1	1	1	1	1	1		1	1		3C
177	DZBAG8568BN	Handset Cradle		1																									3C
178	DZBAT8617	Handset Cradle(Lower)	1	1		1	1	1		1	1	1	1		1	1		1	1	1	1	1	1	1		1	1		3C
180	24N5	Rubber Feet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4A
182	DZBAV8612B	Guide,Paper Set,B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7G
183	DZBAV8612A	Guide,Paper Set,A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6H
203	DZBAV8913AG	Instruction Label	1																										8I
203	DZBAV8913	Instruction Label																			1								8I
203	DZBAV8913AJ	Instruction Label							1					1															8I
203	DZBAV8913AF	Instruction Label					1										1												8I
203	DZBAV8913AN	Instruction Label			1								1																8I
204	DZACE8610	Nylon Washer	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4H
206	DZBAV8733	Film,Sensor Shield	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5J
207	DZBAV8912	Label, Document Size																			1								4H
411	Q3X8	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2I,4H,6G,4D,4G
412	Q3X12	Screw	1	1		1	1	1		1	1	1		1	1	1		1	1	1	1	1	1	1		1	1		2C

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Overall Exploded View

1 2 3 4 5 6 7 8

8.2 Mechanical Frame Unit (1/3)

Ref.No.	Part No.	Part Name	AA	AB	AD	AE	AF	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AW	YB	YC	YG	YM	YT	YV	YW	YX	YZ	Location
1	DZBAV0103	Scanner block, Unit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7G
10	DZBAV0202	Sensor Assy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3J
101	DZBAV1111	Feed Gear C22 C42	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4B
102	DZBAV1102	Latch	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2F,1E
103	DZBAV1112	Feed Gear C18 C48	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4B
104	DZBAV1104	Pressure Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2F,1E
105	DZBAV1105	Bearing,P6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4E
106	DZBAV1106	Actuator Cradle	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5F
107	DZBAV1152	Bearing,P8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5H,6J
109	DZBAV1109	Plate,LED	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6C
110	DZBAV1110	Gear Bracket	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5B
111	DZBAT1111	Feed Gear C19 C43	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4A
112	DZBAT1112	Feed Gear C21 C55	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4C
113	DZBAT1113	Feed Gear C22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2G
114	DZBAT1114	Drive Gear C22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3D
115	DZBAV1117	Drive Gear C48	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3E
116	DZBAT1116	Drive Gear C55	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5H
118	DZBAV1118	Driving Roller	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3E
119	DZBAV1119	Exit Roller	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4E
120	DZBAV1120	ADF Roller	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4G
121	DZBAV1121	Shaft	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3E
122	DZBAV1114	Feed Gear C42	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5B
123	DZBAV1143	Recording Paper,Roller	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6I
124	DZBAV0201	Exit Roller Assy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1I
125	DZBAV1145	Recording Clearance Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7J
126	DZBAV1127	Transmitter Guide	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3G
127	DZBAV1128	Actuator,RPS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5E
128	DZBAV1129	Actuator,ADF	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4F
131	DZBAV1130	Plate Spring (Mirror C)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7C,8E
132	DZBAV1131	Plate Spring (MirrorA, B)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8C,8E
135	DZBAV1202	Transmitter Frame	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2B
136	DZBAT1203	Pressure Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2D
137	DZBAT1204	Adjustment Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2B
138	DZBAV1205	Plate Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3B
140	DZBAV1123	Mirror B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8F

Mechanical Frame Unit (2/3)

Ref.No.	Part No.	Part Name	AA	AB	AD	AE	AF	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AW	YB	YC	YG	YM	YT	YV	YW	YX	YZ	Location
141	DZBAV1124	Mirror C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7D
143	DZBAT1212	Free Roller	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1B
144	DZBAV1158	Pressure Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4I
145	DZBAT1214	Board,Guide	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2C
146	DZBAV1215	ADF Separator	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2D
147	DZBAV1216	Adjustment Bar	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1C
148	DZBAV1122	Mirror A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7C
149	DZACG1172	ADF Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2D
165	DZACG1102	Scanner Glass	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5E
179	TCP188-616	Clutch	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3F
181	DZBAV1115	Feed Gear C18 C73	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4B
186	DZBAV1141	Reception Base	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4H
187	DZBAV1142	Recording Paper Guide	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8J
188	DZBAV1149	Feed Pulley	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3H
189	DZBAV1150	Feed Gear	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5I
190	DZBAV1153	Exit Guide	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3H
191	DZBAV1154	Exit Cover	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1H
193	DZBAV1141A	Adjusting Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4H
194	DZBAV1155	Tension Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4H
202	DZBAV1133	Belt Cover	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1F
402	B3X6TTS XTB3+6F	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4B,3G,4I,3H
411	Q3X8	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2J,1H,5G,7E,4D,3B,3J,2F1E,6D,6C
412	Q3X12	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6F,4B
413	B2X4TTB XTB2+4J	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5I
418	P26x6	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6C
500	YZ3-010200	Cutter Assembly	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3I
520	20S2M630UK	Timing Belt	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4I
524	FX13-2P	Stamp Head	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7E
A10	DZYC0484	Cutter Sensor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2H
A11	DZYC0485	Paper and Exit Sensors	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2H
HD1	KF2008K31	Thermal Head	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7J
LED1	DZBAV8802	LED Assembly	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6D
M1	42SPM24DCZG	Stepper Motor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5C

Mechanical Frame Unit (3/3)

Ref.No.	Part No.	Part Name	AA	AB	AD	AE	AF	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AW	YB	YC	YG	YM	YT	YV	YW	YX	YZ	Location
M3	DZBAV8803	Cutter Motor Assembly	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6I
MG1	TDSSY504AP	Stamp Assembly	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7D

----- **Note** -----

8.3 Harness(1/4)

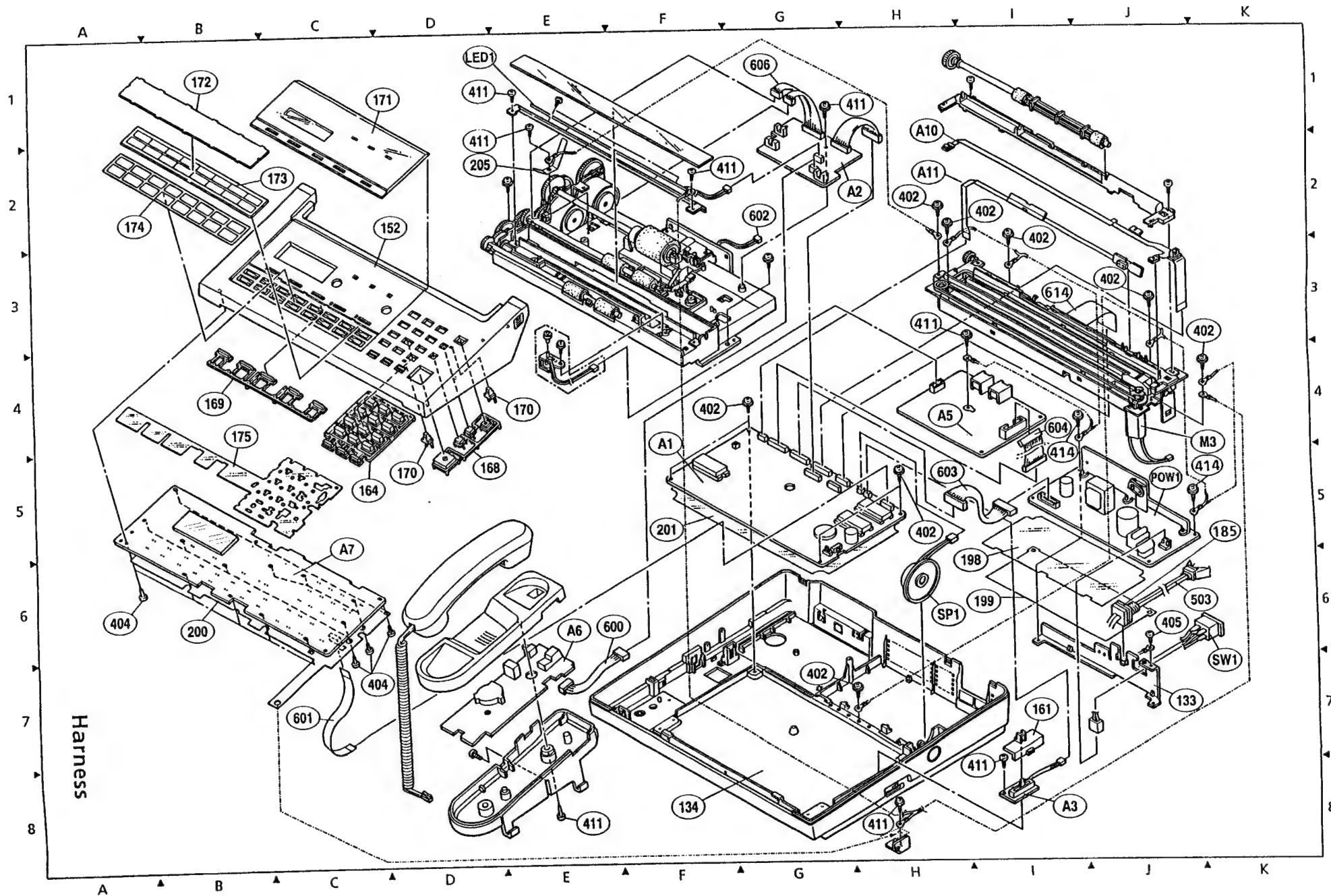
8.3 Harness (1/4)			Ref. No.	Part No.	Part Name	AA	AB	AD	AE	AF	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AW	YB	YC	YG	YM	YT	YV	YW	YX	YZ	Location
133	DZBAV8202	AC Panel	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7J
134	DZBAV8201	Base Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8F
152	DZBAV8636AB	Top Cover		1		1		1		1		1	1					1	1		1	1	1	1	1	1	1	1	1	1	1	2D
152	DZBAV8636AG	Top Cover	1																													2D
152	DZBAV8636AJ	Top Cover									1																					2D
152	DZBAV8636AP	Top Cover														1																2D
152	DZBAV8636AF	Top Cover					1																									2D
152	DZBAV8636AS	Top Cover																	1													2D
152	DZBAV8636AN	Top Cover													1																	2D
152	DZBAV8636AD	Top Cover			1																											2D
161	DZBAV8611	Volume Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7I
164	DZBAV8641	Key Top A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4C
168	DZBAV8642	Key Top B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4D
169	DZBAV8646	Key Top C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4B
170	DZBAV8647	Window,LED	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4D
171	DZBAV8661AU	Window,LCD		1		1		1		1	1							1	1		1	1	1	1	1	1	1	1	1	1	1	1D
171	DZBAV8661AG	Window,LCD	1																													1D
171	DZBAV8661AJ	Window,LCD								1																						1D
171	DZBAV8661AP	Window,LCD														1																1D
171	DZBAV8661AF	Window,LCD					1																									1D
171	DZBAV8661AS	Window,LCD																		1												1D
171	DZBAV8661AN	Window,LCD													1																	1D
171	DZBAV8661AD	Window,LCD			1																											1D
172	DZBAV8649	Key Sheet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1B
173	DZBAV8650	Directory Sheet	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2C
173	DZBAV8657	Directory Sheet		1																												2C
174	DZBAV8651	Protection Sheet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2A
175	DZBAV8652	Insulation Sheet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4B
185	DZBAT8201	Power Code Bush	1	1	1		1	1	1	1		1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	6J
198	DZBAV8203	Insulation Sheet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6I
199	DZBAV8204	Sealed Sheet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6I
200	DZBAV8660	Insulation Sheet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6B
201	DZBAV8205	Insulation Sheet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5F
205	DZBAV1134	Discharge Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2E

Harness(2/4)

Ref. No.	Part No.	Part Name	AA	AB	AD	AE	AF	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AW	YB	YC	YG	YM	YT	YV	YW	YX	YZ	Location
402	B3X6TTS	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3K,3J,2I,2H,5H,7H,4G
	XTB3+6F																												
404	B2X6TTB	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6A,6C
	XTB2+6J																												
405	P4x8SMWNI	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6J
	XYN4+F8NI																												
411	Q3X8	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8E,8I,1J,2F,1G,8H,3I
414	B3X8TTS	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4J,5K
	XTB3+8F																												
503	DZZSP32098	Power Cord				1																							8E
	DZZSP32123																												
	DZZSP32126																												
503	DZZSP32120	Power Code	1		1		1	1	1				1	1		1	1	1		1	1	1		1		1		1	8E
503	DZZSP32119	Power Code		1						1					1								1				1		8E
503	DZZSP32108	Power Code									1							1											8E
503	DZZSP32122	Power Code									1																		8E
503	DZZSP32124	Power Code																							1				8E
600	DZBAV8708	Connector Cord W/Plug,SRU	1			1	1	1			1	1		1	1	1		1		1	1	1	1	1		1	1	1	6E
600	DZBAV8718	Connector Cord W/Plug,SRU								1									1										
601	DZBAV8720	FFC PNL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7C
602	DZBAV8703	Connector Cord W/Plug,Video	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2G
603	DZBAV8701	Connector Cord W/Plug,DC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5I
604	DZBAV8707	Connector Cord W/Plug,LCU	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4I
606	DZBAV8704	Connector Cord W/Plug,MOT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1G
614	DZBAV8721	FFC HEAD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3I
A1	DZYC0476BYAA	PCB Assembly,SC	1																										5D
A1	DZYC0476BYAB	PCB Assembly,SC		1																									5D
A1	DZYC0476BYAD	PCB Assembly,SC			1																								5D

Harness(4/4)

Ref. No.	Part No.	Part Name	AA	AB	AD	AE	AF	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AW	YB	YC	YG	YM	YT	YV	YW	YX	YZ	Location
A5	DZYCA0447R1	PCB Assembly,LCU														1													6F
A5	DZYCA0447T1	PCB Assembly,LCU																1		1					1				6F
A5	DZYCA0447YW1	PCB Assembly,LCU																								1			6F
A5	DZYCA0447YX1	PCB Assembly,LCU																									1		6F
A5	DZYCA0448A1	PCB Assembly,LCU	1																										6F
A5	DZYCA0448M1	PCB Assembly,LCU										1																	6F
A5	DZYCA0448N1	PCB Assembly,LCU											1																6F
A5	DZYCA0448S1	PCB Assembly,LCU															1												6F
A6	DZYCA0435U	PCB Assembly,SRU				1								1				1		1	1	1		1	1	1			6E
A6	DZYCA0435YX	PCB Assembly,SRU																					1				1		6E
A6	DZYCA0436H	PCB Assembly,SRU						1																					6E
A6	DZYCA0436K	PCB Assembly,SRU								1																			6E
A6	DZYCA0436M	PCB Assembly,SRU										1																	6E
A6	DZYCA0436A	PCB Assembly,SRU	1																										6E
A6	DZYCA0436L1	PCB Assembly,SRU									1																		6E
A6	DZYCA0436Q	PCB Assembly,SRU													1														6E
A6	DZYCA0436R	PCB Assembly,SRU														1													6E
A6	DZYCA0436W	PCB Assembly,SRU																	1										6E
A6	DZYCA0436F	PCB Assembly,SRU					1																						6E
A6	DZYCA0436S1	PCB Assembly,SRU															1												
A7	DZYC0482A	PCB Assembly,PNL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5C
A10	DZYC0484	Culter Sensors	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2I
A11	DZYC0485	Paper and Exit Sensors	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2I
POW1	DZZSP24167	Power Supply Unit(200V)	1	1	1		1					1				1	1												7D
POW1	DZZSP24172	Power Supply Unit(200V)						1	1	1	1	1		1	1			1	1	1	1	1	1	1	1	1	1	1	7D
POW1	ETX998D8E	Power Supply Unit(200V)								1	1							1	1	1				1	1		1	1	7D
POW1	ETX998D8A	Power Supply Unit(100V)				1																							7D
SP1	DZBAV8801	Speaker Assembly	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6H
SW1	No1852-0122	Power Switch	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7K



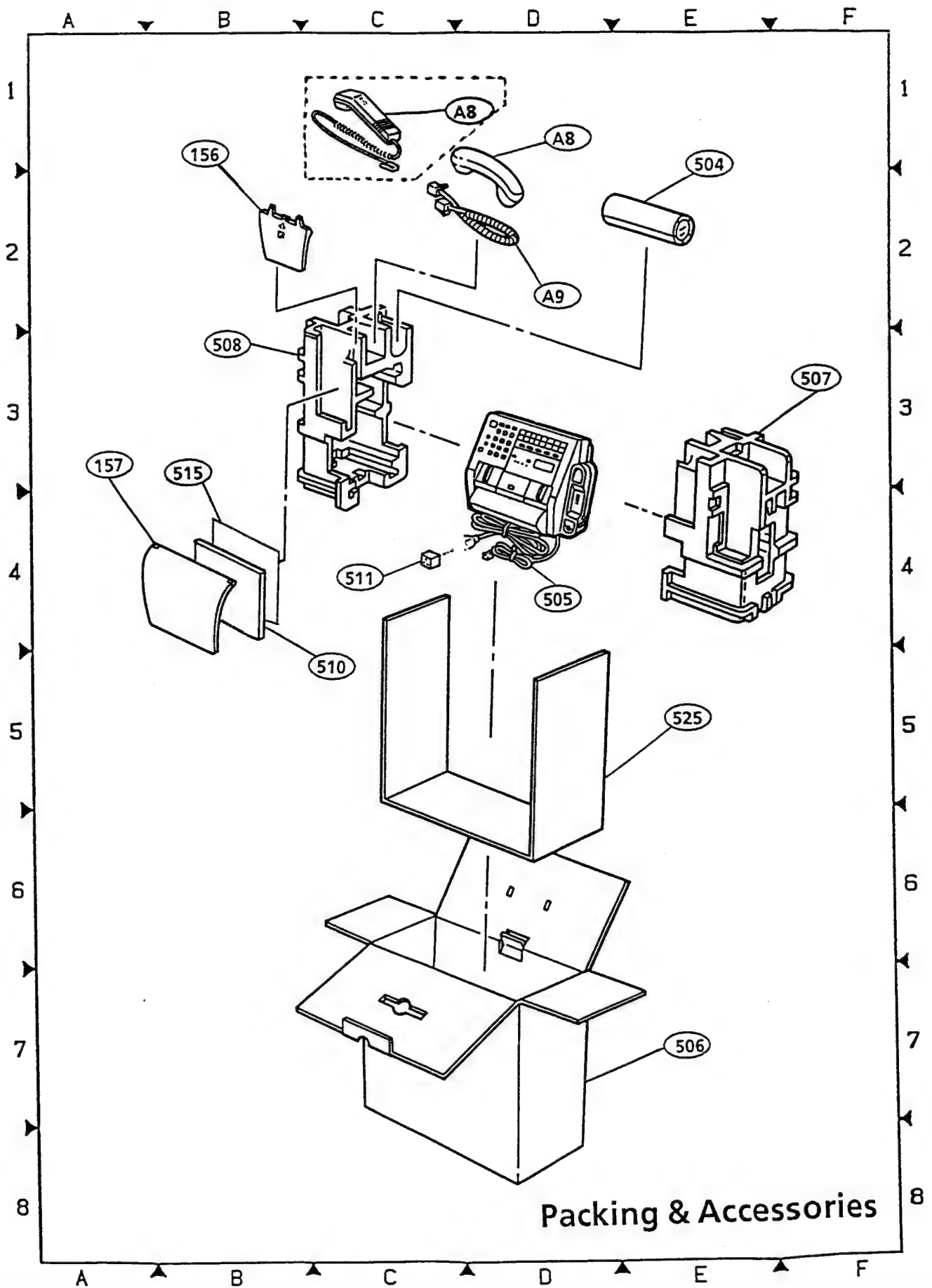
----- **Note** -----

8.4 Packing & Accessories (1/2)

Ref. No.	Part No.	Part Name	AA	AB	AD	AE	AF	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AW	YB	YC	YG	YM	YT	YV	YW	YX	YZ	Location
156	DZBAV8606	Tray, Document	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2B
157	DZBAV8607	Tray, Recording Paper	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3A
504	THM331E	Recording Paper	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2E
505	DZZSP09121	Line Cord																											4D
	DZZSP09115					1			1											1	1	1	1	1		1	1	1	
	DZZSP09187-1																												
	DZZSP09119																												
505	DZZSP09164	Line Cord																											4D
	DZZSP09172			1						1									1										
	DZZSP09173																												
	DZZSP09189																												
505	DZZSP09092	Line Cord	1									1			1										1				4D
	DZZSP09174													1															4D
505	DZZNS09261	Line Cord									1																		4D
505	SP09090	Line Cord									1																		4D
505	DZZSP09132	Line Cord					1						1																4D
	DZZSP09178																												
505	DZZSP09094	Line Cord														1													4D
505	DZZSP09120																												
505	DZZSP09177																1												4D
505	DZZNS09202	Line Cord																											4D
505	DZZNS09249	Line Cord						1																					
506	DZBAV4116	Carton Box	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7E
507	DZBAV4102L	Styrofoam(L)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3F
508	DZBAV4102R	Styrofoam(R)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3B
510	4B995	User's Guide		1																									5C
510	4B998	User's Guide																											5C
510	4B1000	User's Guide	1																										5C
510	4B1105	User's Guide							1																				5C
510	4B1106	User's Guide												1															5C
510	4B1107	User's Guide															1												5C
510	4B1108	User's Guide															1												5C
510	4B1111	User's Guide						1																					5C
510	4B1112	User's Guide																				1							5C

Packing & Accessories (2/2)

Ref. No.	Part No.	Part Name	AA	AB	AD	AE	AF	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AW	YB	YC	YG	YM	YT	YV	YW	YX	YZ	Location
510	4B1114	User's Guide																										1	5C
511	DZBAM4120	Protection Packing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4C
515	MC530A4	Carrier Sheet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5C
525	DZBAV4121	Corrugated Paper	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5E
A8	DZZSP23032F	Handset				1								1				1		1	1	1	1			1	1		1D
A8	DZZSP23045F	Handset	1				1	1		1	1	1			1	1			1										1D
A8	MP100ABF	Handset		1																									1D
A9	DZZSP09185F	Curl Cord	1			1	1	1		1	1	1		1	1	1		1	1	1	1	1	1		1	1			2D
	DZZSP09191F																												



----- **Note** -----

Appendix

Abbreviation List

Abbreviation List	9 - 2
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Abbreviation List

Abbreviation	Function	Signal format
ABC	Automatic Background Control	—
ADF	Automatic Document Feeder	—
AM	Amplitude Modulation	—
AMS	Automatic Mode Selection	—
bps	bit per second	—
CCITT	International Telegraph and Telephone Consultative Committee (Comité Consultatif Internationalé Télégraphique et Téléphonique)	—
CED	Called station identification	2100 Hz
CFR	Confirmation to Receive	X010 0001 1650 Hz
CIG	Calling Subscriber Identification	1000 0010
CNG	Calling Tone	1100 Hz for 500 ms
CNP	Connector Plug	—
CPU	Central Processing Unit	—
CSI	Called Subscriber Identification	0000 0010
DCN	Disconnect	X101 1111
DCS	Digital Command Signal	X100 0001
DIS	Digital Identification Signal	0000 0001
DOC	Document Sensor	—
DTC	Digital Transmit Command	1000 0001
DTMF	Dual-Tone Multifrequency	—
EOL	End of Line	—
EOM	End of Message	X111 0001 1100 Hz
EOP	End of Procedure	X111 0100
EP ROM	Erasable Programmable Read Only Memory	—
EP tone	Echo Protection Tone	1700, 1800 Hz
EQL	Equalizer	—

Abbreviation List

Abbreviation	Function	Signal format
FPU	Facsimile Processing Unit	—
FMC	Facsimile Mechanism Controller	—
FSK	Frequency Shift Keying	—
FTT	Failure to Train	—
GC	Group Command	2100 Hz for 1.5-10.0s
GI	Group Identification	1850 Hz
G2	Group 2	—
G3	Group 3	—
ID	Identification	—
I/O	Input/Output	—
JP	Jumper	—
LCD	Liquid Crystal Display	—
LCS	Line Conditioning Signal	1100 Hz
LCU	Line Control Unit	—
LED	Light Emitting Diode	—
LSI	Large Scale Integrated Circuit	—
MCF	Message Confirmation	1650 Hz
MH	Modified Huffman (coding scheme)	—
MOS	Metal Oxide Semiconductor	—
FET	Field Effect Transistor	—
MPS	Multi Page Signal	X111 0010
CPU	Central Processing Unit	—
MR	Modified Read (coding scheme)	—
MWS	White Line Skip	—
NSC	Non-Standard Facilities Command	1000 0100
NSF	Non-Standard Facilities	0000 0100
NSS	Non-Standard Set-up	X100 0100
PCB	Printed Circuit Board	—
PIN	Procedural Interrupt Negative	X011 0100

Abbreviation List

Abbreviation	Function	Signal format
PIS	Procedure Interrupt Signal	462 Hz for 3s
PM	Phase Modulation	—
pps	pulse per second	—
PRI-Q	Procedure Interrupt — EOM	X111 1001
PSA	Paper Sensor	—
PSTN	Public Switched Telephone Network	—
PTT	Postal and Telecommunications Authority (Post, Telegraph & Telephone)	—
QAM	Quadrature Amplitude Modulation	—
RAM	Random Access Memory	—
RH	Relative Humidity	—
ROM	Read Only Memory	—
RPS	Read Point Sensor	—
RTC	Return to Control	—
RTN	Retrain Negative	X011 0010
RTP	Retrain Positive	X011 0011
RX	Receive	—
SC	System Control Unit	—
LCU	Line Control Unit	—
S/N	Signal/Noise	—
STD	Standard	—
TCF	Training Check Frame	Zeros for 1.5s
TP	Test Pin	—
Tx	Transmit	—
TSI	Transmitting Subscriber Identification	X100 0010
TM	Transmission Motor	—
VR	Volume/Variable Resistor	—
VSB	Vestigial Sideband	—